CFTRI-MYSORE
3642
Home preserving..

3642

1. home preserveing
2. fruit preservation
3. jam makeing
4. marmalades
5. freezing (6) Pickles
7 vineyars (8) chutney
9. sauces. (10) vegetable preservation
11. candied fruits (12) eggs

(3) 3642

13. crystallized flowers
14. herbs drying
15. fruit "
16. vegetable "

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THE *MODERN LIVING* SERIES

HOME PRESERVING

BY

JOAN ROBINS

CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE
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I would also like to thank my family for enduring the gloom of mother in composition and the odours of fruit in decomposition. They now realize the true meaning of the simple instruction, "Peel and core 5 lb. apples".

INTRODUCTION

WHY PRESERVE?

TODAY this is almost a rhetorical question. The urge which drove our foremothers to set about the job was the knowledge that if they did not preserve all the food they could in the season of plenty, there would be some frighteningly lean months during the late winter and early spring. In later years, perhaps, it was a desire for variety in food which impelled the home-maker to her preserving pans.

The last war saw a patriotic and passionate revival of interest in home preserving. The countryside bubbled with groups of women gathered together to make jam and can fruit, all inspired with the drive to save all the food there was. Even the most sophisticated town-dweller became adept at putting away a few bottles of fruit bought in the market and preserved in the flatlet kitchen. Because, without such personal effort to save and preserve fruit and vegetables at the right time, there

would have been none at all out of season to supplement the very fair but dull rations.

A free market rules today and we can have all we want at almost any season of the year. The knowledge of methods of preserving food has grown and developed during these last two or three decades, so that it seems unnecessary to bother to try to do at home something which is done so efficiently in the factory.

For the country housewife, with a garden or a holding producing vegetables and fruit, there are real reasons of economy in preserving them, which is noticeable in the housekeeping money. There is also an urge of conscience which makes it difficult to sit with folded hands while fruit drops from the bushes when it should really be in the preserving pan. But why should the urban housewife bother? There's jam enough and tins in thousands waiting to be bought.

This is an age of advertising, and it is a peculiar blind spot in advertisers' minds which makes them spend thousands of pounds trying to persuade the home-maker that she is an overworked, hard-put-upon, poor, lifeless creature. The inference is that if only she will buy their particular products, she will have more leisure to sit with her feet up reading magazines or looking at commercial television, both full of advertisements telling her what a wretched job it is to be a housewife. How any of us survive this onslaught it is hard to know, but there is an insidious feeling that grows and grows which makes it difficult to get any joy or satisfaction out of the most important job in life.

Creating a home and running it requires all the skill and craft we have. It should be a most satisfying job, and that is why it is so important to retain and develop the skill which makes for personal pride in achievement. The modern craze for oil-painting by amateur artists at home is one example of the fulfilling of a need for doing something oneself. Maybe,

others beside the housewife are feeling a little irked by the mechanical age and are looking for some means of expressing their natural talents. But it is still the housewife who is the target of all those who declaim that housekeeping is a form of slavery, and that "leisure" is the be-all and end-all of ambition.

So there is one modern reason why one may say that it is worth setting about learning and practising the traditional art of preserving the fruits of the earth. It is one of the many creative tasks left to the home-maker. Unlike cooking, the satisfaction lasts for a long time, as long as the visible evidence remains for all to see, rows and rows of beautiful, clean, shining jars or clear bottles of succulent fruit, the result of pleasant work, gladly undertaken.

So, if you do not feel compelled to preserve, try it for fun and enjoy the satisfaction of completing a job which is a mixture of science and witchcraft.

BRIEF HISTORY OF PRESERVING FOOD

"Eat what you can and can what you can't," is a homely jingle that is supposed to be the motto for good housekeeping in the wide, open spaces of America. The idea behind it must be nearly as old as primitive man himself. As a creature who had to depend on hunting or fishing for the nourishment of himself and his family, survival must have demanded the keeping of food for the lean times. The sheer necessity of it would have driven the idlest of hunters into finding some means of saving the meat left over after he and his family had gorged themselves on a fresh kill. It is easy for us to look back and imagine how it might have been done, but we shall never know how many centuries passed, or how many tribes perished, before it was discovered that meat could be preserved by being dried in the sun, or soaked in brine. However it happened, the human animal managed to survive and the crude methods of preserving food can still be observed among primitive peoples today,

mainly by drying in the sun, but also by cooking, smoking, pickling in salt and, in the case of the Eskimos, burying in snow and ice.

As the centuries passed and the hunter slowly emerged as a herdsman and finally a cultivator, so he found methods of preserving the new foodstuffs available. His meat was now preserved for him in the best possible way, " on the hoof," but the milk was made to last longer as butter and cheese, fruits were sun-dried and packed in jars and cereals were stored in sealed caves against the days of famine. The earliest historical records that have come down to us from the most ancient civilized nations show that food preserving was well understood as part of the wealth of nations. The Bible moralized about it, the Egyptians illustrated it comically in strip form, the Homeric Greeks eulogized the fitness of it, the Romans drew up laws about it and then taxed it, the Anglo-Saxons swapped it for wives.

Pickling and spicing appear very early in any kind of human society. Salting is the simplest method, as the men who fished in the sea soon discovered when they cleaned their catch and packed it soaked in brine. The wine producers in their turn learned the value of vinegar as a pickling or preserving agent, although it may make one shudder to think of the peculiar trials and errors they must have suffered.

Spices, of course, could only have come from the East and they came to our islands in the baggage of the returning Crusaders. At first, spices were used to ginger up the unbalanced mediaeval diet, surfeited as it was with lampreys, but later their value as a food preserving agent was recognized and there developed a whole range of new dishes from the heavily spiced Boar's Head, which still reigns superb and uneaten at aldermanic feasts, to the humble sausage.

Can you imagine a world without sugar? A paradise for the earnest dietician, perhaps, but a nightmare for any cook.

Yet, it was not until the reign of Henry VIII "of the sweet tooth" that sugar was introduced into England. And it was his niece, Mary Queen of Scots, who brought "orange conserve" with her from France to brighten her drab kingdom and delighted in making this marmalade herself. How the cooks in the Tudor kitchens must have revelled in this new-found joy, sugar, for it magicked their ponderous duffs into airy cakes and feather-light pastries and gave birth to candied peel and conserves of whole fruit. Recipe books of the Elizabethan period reveal a wealth of imagination in the creation of preserved delicacies of all kinds, jams, cheeses and pickles, although little is said of how long they lasted, probably not more than a season in their unsealed and porous jars.

Diligent search of the records of the next two centuries of European history would reveal little or no progress in the preserving of food. The English fleet blockading Bonaparte, year after year, survived on salt pork and biscuit. In France, where they treat these things more academically, the Republican Directory of 1795 offered a prize of 12,000 francs for anyone who could come forward with a passable method of preserving food. Yet, it was not until fourteen years later, in 1809, that this prize was claimed and won by a Parisian, Nicholas Appert, a confectioner who had devoted himself to this problem and found the right answer without knowing why. He proved to a doubting world that fifty different kinds of foods if packed in wide-mouthed bottles, then heated and sealed therein, would keep in good condition indefinitely. Within a year of Appert's award, an Englishman, named Durand, had taken out a patent in this country for a method of sealing cooked foods in tinned canisters.

Neither Appert nor Durand could give a scientific reason why their methods prevented the food from deteriorating. Suggested theories were wide of the mark, until the genius of Louis Pasteur in 1861 threw open the whole field of bacterio-

logy and proved that what the bottlers and canners were doing was to shut out for ever the micro-organisms in the atmosphere which attack food. However, in spite of these interesting discoveries, a hundred years of almost complete peace in Europe was enough to dampen any enthusiasm for bottling and it has taken two world wars to impress us with the true value of preserving food. Within the last forty years the food canning industry has grown to such importance that it is the largest single user in the world of both steel and tin.

The latest development of a method of preserving food has been refrigeration. The refrigerator now allows us to do in our own homes what the Eskimos have been doing for centuries, keeping food at a temperature low enough to prevent bacteria from developing. The British had an early hand in refrigeration from the necessity of bringing beef from the other side of the world, chilled beef from Argentina in the 1870s and frozen beef and mutton from Australia and New Zealand from 1890 onwards. To the Americans must go the credit for the perfecting of deep and quick freezing; and particularly to Mr. Clarence Birdseye who persevered for many years to produce a minor revolution in our kitchen, the small containers of frozen foods which first appeared in the early 1930s.

WHAT IS PRESERVING?

Preserving may be defined as "An effort to keep food in such a way that it is available when wanted and in such a condition that it is nutritious, appetizing in flavour, colour and appearance and safe to eat."

All living things, whether they are animal or vegetable, have a span of life during which they grow from small beginnings to maturity and old age, until finally they decompose. Preserving food is an attempt to stop the growth of life at a stage of perfection and in a manner which makes the preserved food palatable and pleasant to eat. Once food such as fruit or

vegetables are harvested, the process of maturing still continues until eventually the food becomes over-ripe and rotten. There are other external factors which also help to destroy the perfection of food and which must be kept away from the food as a most important part of the preserving process.

In order to understand the reasons for the different methods used to preserve food it is as well to know something of both the internal maturing factors and also of the external ones which are the enemies of the "Home Preserver".

FACTORS WHICH CAUSE FOOD TO RIPEN AND DECOMPOSE

Internal. Within fruit and vegetables there is a substance which hastens the ripening and maturing process and which, if allowed to continue its operations, will lead to discoloration and pulpiness. This is most easily recognized in the rapid browning of apples and pears when peeled and left uneaten. The chemical elements which carry out this work are known as "enzymes", and it is obvious that they must be destroyed or neutralized if the food is to be preserved.

Enzymes are *destroyed by heat*. Some are very resistant even to heat and require a higher temperature than others. For example, the enzymes in certain types of pears and plums can be destroyed only at high temperatures.

Enzymes are *retarded by extreme cold*. While the cold does not destroy the enzymes, it delays their action so long as the food is kept below a certain temperature. But on thawing, the enzymes are more active than before and they cause quick discoloration and softening of the food.

External. In the air and atmosphere surrounding us there are many living substances which help to destroy food in varying ways.

Moulds. These minute living organisms are familiar to us in cheese, but if allowed to develop where they are not wanted they will spoil and destroy the food. Moulds thrive on moisture

and at moderate temperatures. They do not like heat, and most moulds are destroyed at a temperature of 140 deg.F. if the temperature is maintained for 30 minutes. Moulds do not develop at very low temperatures.

Yeasts. These are one of the simplest forms of living organism and, although very useful in causing fermentation in wines and beer or in bread-making, they are out of place in jam or preserved fruit and vegetables. Yeasts require warmth, moisture and a small quantity of sugar to grow well. They will not usually develop in a solution containing more than 60% sugar or in a high concentration of vinegar or alcohol. Yeasts are readily destroyed at a temperature of 140 deg.F. and remain out of action at low temperatures.

Bacteria are found everywhere and given suitable conditions grow very rapidly. Many of them are harmless and often useful to man, but we are concerned with those which help to destroy food or are of themselves likely to cause unpleasant reactions in human beings. Some bacteria found in food are deadly. Bacteria grow best in warm, moist conditions. They are destroyed easily at a fairly low temperature if there is acid present in the food, as there is in most fruit, but a higher temperature is required if no acid is present. This higher temperature is usually above boiling point at about 240 deg.F. and that is why vegetables require to be processed in a pressure-cooker. Freezing will prevent the growth of bacteria but will not destroy them and as soon as the food is unfrozen again the bacteria will develop and grow.

CONDITIONS FOR PRESERVING FOOD

It is now possible to understand what is being attempted when trying to preserve food and to recognize that the following conditions will be necessary either singly or together to retard or destroy the enzymes which hasten the ripening of the fruit and vegetables and to destroy or retard the growth

of the external micro-organisms which spoil the food.

Heat to the correct temperatures.

Reduce the moisture in food so that enzymes and micro-organisms will not develop.

Chemically treat food to make it unpalatable to the same destructive elements, while keeping it palatable for human beings. That is to add sugar, acid or salt in correct proportions.

Freeze to low enough temperatures to retard growth of destructive micro-organisms.

Storing. Finally, having preserved the food by the correct treatment, it is essential to store it in containers which will not allow the micro-organisms in the air to attack the food again. That is why air-tight jars and cans are essential for preserved fruit and vegetables and air-tight covers for preserves, pickles and chutneys. Store in a cool, dry, dark place to keep in a good condition and to preserve the colour and flavour, as both are spoiled by too warm or too light storage conditions.

SECTION I

PRESERVATION OF FRUIT

FRUIT is preserved in so many different ways that this section of the book almost unbalances the rest. There is no point in apologizing or in attempting to invent recipes for vegetable or meat preserves, which may be both unappetizing and dangerous, just in order to satisfy the good publisher's passion for "balance".

It is sometimes a little bewildering to try to decide which method of preserving to use for a particular fruit. Should it be bottled? Does it make good jam? Is it any good as chutney or candied or crystallized? To help to make the decision a little easier on pages 18—21 charts set out the various uses of each fruit. They are divided into the usual groups of Soft, Stone, Hard and Citrus fruits and then give an indication of the suitability of each fruit to the different methods of preserving.

These charts act as an introduction to the first method of preserving fruit, which is bottling.

BOTTLING OF FRUIT

This method of preserving makes use of heat as the means of halting the life cycle of the fruit and destroying the micro-organisms. It is carried out in glass jars or containers which can be fitted with an air-tight cover. Syrup is often used to improve the flavour of the fruit, but it is not essential and water may be used particularly for stone fruits. The method of heating the fruit varies with the equipment and time available, the type of fruit and the purpose for which it is to be used.

SELECTION OF FRUIT FOR BOTTLING

Fruit for bottling should be as fresh as possible and, with a few exceptions, just at the "firm ripe" stage. Too well-ripened fruit breaks down when heated.

The exceptions are: *Gooseberries*, which are bottled under-ripe, hard and green, *certain plums*, e.g. yellow egg-plums, are best bottled when green and hard, otherwise they become flavourless and mushy.

PREPARATION OF FRUIT FOR BOTTLING

Shrinking Fruit. This is sometimes done to allow for economy in packing the fruit or to impregnate the fruit with syrup and allow for improved flavours. Two methods are used:

Scalding in syrup. Make a solution using 8–12 oz. of sugar to 1 pint of water, according to the variety of the fruit. Pour the boiling syrup on to the fruit and leave for 12 hours. Pack the fruit and add the syrup according to the method of bottling.

Scalding in water. This is used for certain fruits and all it involves is dipping the fruit into boiling water for 2–3 minutes. It is best done by putting the fruit into a muslin cloth or a wire basket and immersing it in a pan of boiling water, doing only a small quantity of fruit at a time to keep the water at boiling point.

THE USES OF FRUI

SOFT FRUITS	JAM	JELLY	CHEESES & BUTTERS	BOTTLE	CAN	PULP OR PURÉE	SYRUPS SQUASHE
BLACKBERRIES	✓	✓	✓	✓	✓	✓	✓
CURRANTS, BLACK	✓	✓	✓	✓	✓	✓	✓
CURRANTS, RED	✓	✓	✓	✓	✓	✓	✓
CURRANTS, WHITE	✓	✓	—	✓	✓	✓	—
ELDERBERRIES	✓	✓	✓	✓	—	—	✓
GOOSEBERRIES	✓	✓	✓	✓	✓	✓	✓
GRAPES	✓	✓	✓	✓	✓	✓	✓
LOGANBERRIES	✓	✓	✓	✓	✓	✓	✓
MULBERRIES	✓	✓	✓	✓	✓	—	—
RASPBERRIES	✓	✓	✓	✓	✓	✓	✓
STRAWBERRIES	✓	✓	✓	✓	✓	✓	✓
WHORTLE, WHIN OR BILBERRIES	✓	✓	✓	—	—	✓	—
STONE FRUITS							
APRICOTS	✓	—	✓	✓	✓	✓	✓
DAMSONS	✓	✓	✓	✓	✓	✓	✓
CHERRIES	✓	—	—	✓	✓	—	✓
GREENGAGES	✓	—	✓	✓	✓	✓	—
NECTARINES	✓	✓	✓	✓	✓	—	—
PEACHES	✓	✓	✓	✓	✓	✓	—
PLUMS	✓	✓	✓	✓	✓	✓	✓
SLOES (WITH APPLE)	✓	✓	—	—	—	—	—

NOTES. Rhubarb and tomatoes are usually classed with soft fruit for exhibition purpo unless mentioned separately.

Unless specially mentioned separately, hard fruit is included with stone fruit.

There is sometimes a special class for vegetable jams, such as marrow, carrot and beet which are occasionally made. Marrow should only be shown in this or an entirely 'o jam class.

R PRESERVATION

NEGARS	PICKLE	CHUTNEY	FREEZE	DRY	MARM.	SAUCE	CRYSTALLISING OR CANDYING
✓	✓ (S)	—	✓	—	—	—	—
—	✗	—	✓	—	—	—	—
✓	—	—	✓	—	—	—	✓
—	—	—	—	—	—	—	✓
✓	—	—	—	—	—	✓	—
✗	✓	✓	—	—	—	✓	✓
—	—	—	✓	✓	—	—	—
✓	—	—	✓	—	—	—	—
—	—	—	—	—	—	✓	—
✓	—	—	✓	—	—	—	—
—	—	—	✓	—	—	—	✓
—	—	—	—	—	—	—	—
—	✓ (S)	✗	—	✓	—	—	✓
✓	✓ (S)	✗	—	—	—	✓	—
—	✓ (S)	—	dark only	—	—	—	✓
—	—	—	—	✗	—	—	✓
—	✗ (S)	—	—	✗	—	—	✓
—	✓ (S)	✗	—	✓	—	—	✓
✓	✓ (S)	✓	dark only	✓	—	✓	✓
—	—	—	—	—	—	—	—

— = unsuitable as method for that fruit.
✓ = suitable method of preservation.
✗ = possible method but not first class for reasons of poor colour, poor flavour or extravagance.
(S) = sweet pickle.

THE USES OF FRUIT

HARD FRUITS	JAM	JELLY	CHEESES & BUTTERS	BOTTLE	CAN	PULP OR PURÉE	SYRUPS & SQUASHES
APPLES	✓	✓	✓	✓	✓	✓	—
CRAB-APPLES	—	✓	—	—	—	✓	—
MEDLARS	—	✓	✓	—	—	✓	—
PEARS	✓	—	✓	✓	✓	✓	—
QUINCES	✓	✓	✓	✓	✓	✓	✓
CITRUS FRUITS							
GRAPEFRUITS	—	✓	—	✓	✓	—	✓
LEMONS	—	✓	—	—	—	—	✓
LIMES	—	✓	—	—	—	—	✓
ORANGES	✓	✓	—	✓	✓	—	✓
TANGERINES	—	✓	—	✓	✓	—	✓
IMPORTED FRUITS							
GUAVAS	✓	✓	✓	—	—	—	—
MELONS	✓	—	✓	—	—	—	—
PINEAPPLES	✓	✓	—	✓	✓	—	✓
MISCELLANEOUS FRUITS							
MARROWS	✓	—	✓	—	—	—	—
RHUBARB	✓	✓	—	✓	✓	—	—
TOMATOES	✓	✓	—	✓	✓	✓	—

NOTES. Rhubarb and tomatoes are usually classed with soft fruit for exhibition purp unless mentioned separately.

Unless specially mentioned separately, hard fruit is included with stone fruit

There is sometimes a special class for vegetable jams, such as marrow, carrot and bee which are occasionally made. Marrow should only be shown in this or an entirely 'c jam class.

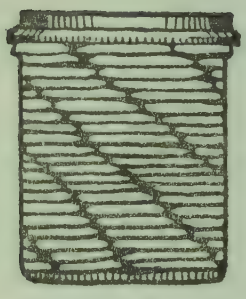
OR PRESERVATION

VINEGARS	PICKLE	CHUTNEY	FREEZE	DRY	MARM.	SAUCE	CRYSTALLISING OR CANDYING
—	✗	✓	✓	✓	—	✓	—
✓	✓(S)	—	—	—	—	✓	✓
—	—	—	—	—	—	—	—
—	✓(S)	✗	—	✓	—	—	✓
—	✓(S)	✓	—	—	—	✓	—
—	—	—	—	—	✓	—	✓
—	—	—	—	—	✓	—	—
—	—	—	—	—	✓	—	—
✓	—	✓	✓	—	✓	—	✓
—	—	—	—	—	✓	—	✓
—	—	—	—	—	—	—	—
—	✓(S)	—	—	—	—	—	✓
—	—	—	—	—	✗	—	✓
—	✓(S)	✓	—	—	—	—	—
—	—	✓	—	—	—	—	—
—	—	✓	—	—	—	✓	—

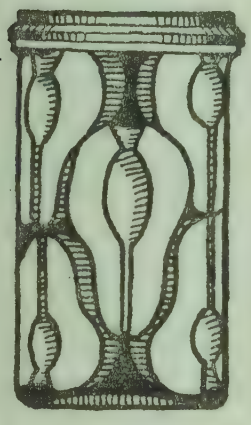
— = unsuitable as method for that fruit.
✓ = suitable method of preservation.
✗ = possible method but not first class for reasons of poor colour, poor flavour or extravagance.
(S) = sweet pickle.

Salt Solution. This is used to prevent certain fruits from discolouring during preparation, due to the action of enzymes. The correct proportion is 1 oz. salt to 2 quarts water. Use a basin with a wide enough top so that a plate may be put into it resting on top of the fruit, so as to keep the fruit covered with the solution. Afterwards the fruit is rinsed in cold water before being packed into jars.

DETAILED PREPARATION OF FRUIT FOR BOTTLING



Apple slices packed after scalding



Method of packing halved pears

Apples. Choose ripe cooking apples, peel and core and cut into $\frac{1}{4}$ in. to $\frac{1}{2}$ in. rings. Small apples may be cored and peeled and packed whole or cut in wedge-shaped slices. All apples should be immersed in salt solution and rinsed well before packing.

"Solid pack" apples. To make it possible to get a large quantity of fruit into the jar, after using salt solution scald the sliced apples and then pack neatly and tightly into a jar. No liquid is needed for this method.

Apricots. Choose well coloured, firm, ripe fruit. Remove the stalks and wash in cold water. If the fruit is to be packed in halves cut round the fruit to the stone, twist, and the two halves will separate. Crack the stones and use a few of the kernels with the fruit to improve the flavour.

Blackberries. Only cultivated blackberries are really worth bottling unless the wild ones are large and juicy. Remove damaged and over-ripe fruit also stalks and leaves.

Black Currants. Remove the stalks and if desired the blossom ends with a pair of scissors. This is not essential for

home use but is desirable for "show" purposes. Pack very very firmly.

Cherries. Remove the stalks and rinse in cold water. Choose a small stone variety. The ordinary dessert cherries are not really suitable for bottling as they lose flavour and colour. The better varieties are the acid, jam cherries such as Morella, Kentish Red or May Duke, or, if liked, the small black cherry.

Damsons. Remove the stalks and rinse in cold water. Choose firm, ripe fruit preferably the true small purple Damson and not the larger Damascene as the flavour is better.

Gooseberries. Top and tail in the usual way if bottling in water. If using syrup snip a piece off each end or prick the fruit to allow the syrup to penetrate and prevent shrivelling. Choose green, hard berries and grade according to size before packing.

Grapes. These are worth doing if the fruit is well-flavoured. Stem and rinse in cold water. These make a useful addition to fruit salad and should be bottled in small jars.

Grapefruit. Peel right through the skin and pith, exposing the cut edges of the sections. Remove each section from its tissues and pack in syrup. This is only worth doing when grapefruit is cheap.

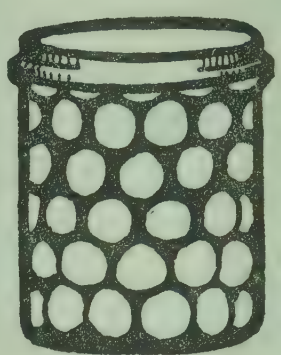
Greengages. Remove the stalk and rinse in cold water. The liquid in which greengages are preserved often becomes cloudy and the fruit slightly brown in appearance. This is characteristic of the fruit but makes this a poor fruit for show purposes.

Loganberries. Remove stalks and leaves and any damaged or maggoty fruit.

Oranges. Prepare as for grapefruit.

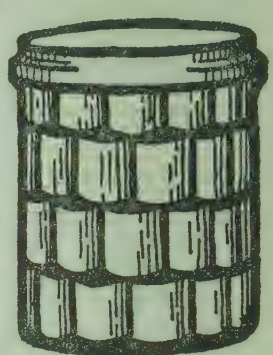
Peaches. For large jars choose yellow fleshed fruit as this has a stronger flavour. White fleshed fruit has a more delicate flavour and makes a good addition to fruit salad, so bottle in small jars. Skin by scalding for 1 minute and then immersing in cold water. Cut in halves or in slices for neat packing.

Halved peaches
Halved solid pack tomatoes
Halved large plums



Cherries
Gooseberries
Small plums
Damsons

Halved apricots
Halved large plums
Alternate rows with and without stones



Rhubarb

Pears. Choose a dessert variety, such as Williams or Conference, when fully ripe. Peel, core and cut in half, lengthwise, and remove core and string from stalk with a teaspoon. Immerse in a salt solution to which has been added $\frac{1}{2}$ oz. citric acid.

Plums. To prepare, remove the stalks and rinse in cold water. Purple plums, choose slightly under-ripe when still red. Yellow plums, choose slightly under-ripe when still greeny yellow in colour.

All other plums are best at the firm, ripe stage. Victoria plums may be cut in half and stoned as for apricots.

Raspberries. Use dry firm fruit and examine well for maggots. Remove plugs and any damaged fruit and unless very dirty do not wash. Pack in the usual way.

Alternative Method. Roll in castor sugar and pack firmly, taking care not to bruise the fruit. No liquid is added. The fruit is sealed in the jar and sterilized using the water bath method.

Red and White Currants. These are hardly worth bottling by themselves but are usually bottled with raspberries either in the plug hole of the raspberries or in layers between the larger fruit. Stalk and rinse before packing.

Rhubarb. This is only worth doing if it is a family favourite. The most suitable variety is "Champagne". Wipe the stalks and cut into short even lengths 1½ in.–2 in. This "fruit" should be scalded in syrup before packing.

Strawberries. These are not very satisfactory when bottled as they shrink and lose colour. If wishing to bottle them choose well flavoured, firm fruit and hull it and scald with strong syrup to which has been added a suitable red colouring. Leave twelve hours. Pack the shrunken fruit. Bottle, using the coloured syrup added alternately with the fruit.

Tomatoes. Choose even, medium or small sized fruit of a good bright even colour. To prepare the fruit, skin by dipping in boiling water for about 20 seconds and then into cold. The skin will then come off easily. If left whole, pack and cover with brine or cut in halves across the fruit. Pack into containers. Sprinkle the following mixture between the layers of fruit.

2 teaspoonfuls of salt.
1 teaspoonful of sugar to every 2 lb. tomatoes.
No added liquid.

Unskinned whole tomatoes are most suitable for bottling using the "oven" method. Do not attempt to sterilise the "solid pack" tomatoes using the oven method.

EQUIPMENT FOR FRUIT BOTTLING

Jars and Bottles.—The Vacuum Seal Principle. The bottles or jars used for preserving fruit or vegetables should be of a type that can be made air-tight by the use of a cap or top which fits tightly on the jar and forms a vacuum seal when the jar and its contents cool. This ensures that no re-infection of the sterilised food will take place. There are many kinds and sizes of bottles and tops on the market which may be bought specially for preserving, or there are special tops sold for fitting on used jam jars.

Whatever the kind or size they all work the same way. The

caps or lids are fitted with a rubber or composition ring or band which fits either round the jar or inside the cap, which may be glass or metal. These caps are usually held in position by a spring clip or metal screw band. During the heating process the air in the jar is forced out, as the contents expand. Consequently, during cooling the contents contract and, the lids being air-tight are held firmly in position so that no fresh air can come from outside, a vacuum is formed. The rubber band holds the lid and the jar together by the compelling suction of the vacuum and the lid remains tightly in position when the spring clip or metal ring is removed.

Testing. It is always important to test the jars to make sure that the vacuum is there and that the lids are sealed in position. This is done when the jars have cooled about 24 hours after processing. Remove the clip band or other mechanical device which may have been used and lift the jar carefully by its lid. If the lid holds, as it should, then the jar is sealed and ready for labelling and storing.

Types of jars and covers. *Spring-clip covers and jars*. The covers of these jars are usually lacquered tin or aluminium and are sold complete with bottles of different sizes ranging from

1-4 lb. The more expensive jars have straight sides and the less expensive have a narrower neck which makes them slightly more difficult to pack. In some cases the rubber ring is made to fit round the jar and in others the ring fits into the lid. Both are equally satisfactory. The spring-clip is usually treated to prevent rusting. It is important to keep the various types of lids, rings and clips together otherwise there may be mistakes in use and the jars will not seal properly.

Screw-band covers and jars. Again these are sold in a variety of sizes and shapes. The screw-bands are made of aluminium or lacquered tin-plate. The rubber bands are flat and fit on to the jar or the lids. The lids are usually glass and fit neatly on to the jar and are held in position by the screw-band.

Covers for jam jars. There are various makes all using the spring-clip method for holding the lid in position. Some lids are lacquered metal and others are glass. Make sure that the jam jars and lids fit one another before use.

Sterilizing Pans. These pans are used to hold the jars when the food is being treated by the "water bath" method.

Sterilizer. These may be bought complete with lid thermometer, bottle rack or false bottom. The prices vary from about £2–£4 depending on size and type of material used. Tin plate with copper bottom gives satisfactory service. The pan may have a fixed false bottom on which the bottles will rest or it may have a removable rack making it easy to lift out all the jars at once. The thermometer is usually made to fit into a hole in the lid. Those with thermometers fitted into a side-pocket are not so satisfactory.

Home-made Sterilizer. Any vessel such as a bucket, saucepan, fish kettle or wash copper may be used. Fit a wire or wooden rack as a false bottom to allow the water to circulate without disturbing the bottles and to keep the bottles away from the bottom of the pan. The pan must be deep enough to take the bottles or jars completely immersed in water.

Layers of paper may be used instead of the racks.

Pressure Pans. These are special pans for sterilizing under pressure. They are sold with a rack on which to stand the bottles and should also have three weights, 5 lb., 10 lb. and 15 lb., to vary the pressure if desired. Use only those pressure pans which are made to British Standards safety specifications and are labelled accordingly.

Small Equipment. *Thermometer.* These may be glass stem or be fitted in a brass or tin case. The reading should go to 212 deg. F., but if wanted for jam making it should read to 230 deg. F.

Bottle Lifting Tongs. These are not essential but desirable for lifting hot bottles out of a home-made sterilizer. They are fitted with rubber or plastic grips and are generally useful in a kitchen.

Fruit Packing Spoon. A long-handled wooden spoon with a narrow flat end. This is useful but not essential as the handle of a wooden cooling spoon may be used instead or a home-made fruit packing spoon.

Muslin. This is useful for straining syrup, scalding fruit, covering bowls and drying herbs.

Miscellaneous. Saucepans for making syrup, labels, chopping board, knives, scissors, spoons, bowls and other usual kitchen equipment will be needed. Small hat-pins and small tweezers are also useful.

Preparation of Equipment. *Jars* should be examined to make sure that they are free from cracks, flaws, and chips particularly round the mouth. Discard any which are unsuitable. Wash and rinse in cold water. Do not dry as the fruit will pack more easily in a slightly wet jar.

Rubber Rings and Bands. These should never be used more than once. Test for elasticity particularly if they have been stored. Soak in warm water for $\frac{1}{4}$ hour before using and, just before use, dip in *boiling* water.

Lids and Covers. Examine these and discard any which are bent or misshapen, chipped, or cracked, also any from which the lacquer is worn off. Wash and dip in boiling water just before use.

All other equipment should be cleaned according to normal kitchen standards.

SYRUP FOR BOTTLING

This is not essential but improves the flavour of the fruit and is always recommended for soft fruit. Fruit tends to rise in the bottle when syrup is used, and the stronger the syrup so does this tendency increase. A medium syrup made with the smaller quantity of sugar given below is advised for bottling, except for choice pears, peaches and apricots.

Recipe.

½–1 lb. granulated or loaf sugar.

1 pt. water.

Dissolve the sugar in the water, bring to the boil and boil for 1 minute. If necessary strain through muslin before using.

This syrup may be made and stored for future use. If the syrup is to be used at boiling temperature keep hot in a covered pan to prevent evaporation.

It is worth noting that the amount of sugar required to sweeten fruit bottled in water is greater than the amount used to bottle in syrup. Also, if the fruit is to be served cold there is the added complication of heating the water with sugar and the risk of spoiling the appearance of the fruit.

PACKING FRUIT IN THE BOTTLES

Packing. The fruit should be prepared and packed neatly and tightly into the jars. Normally a layer of fruit is fitted into the base of the jar and then successive layers built up on that. A packing spoon helps to set the fruit in position without bruising. Tap the jar gently on a cloth to help the fruit to settle,

and continue packing until the jar is *filled to the top.*

Addition of Syrup of Water or Brine. Where this is added cold or hot before processing always fill to the top of the jar. In some cases of solid pack fruits having a great density add the liquid alternately with the fruit during packing to avoid air bubbles. After filling twist the jar with a quick jerk; this allows air bubbles to escape and makes room for more liquid. When using the oven method of processing, the boiling syrup, water or brine is poured on to the fruit after heating in the oven to complete the sterilization. The jar must be filled to overflowing. All jars being filled with *hot* or *boiling* liquid should be placed on a wooden or non-conducting surface.

Grading. Fruit should be graded for ripeness so that an evenly cooked product is obtained. In the same way evenly sized fruit packs better and will be of the same evenness after processing. Grading is most easily done by placing it on a large tray and picking it out from there rather than attempting to select from a large bowl or basket. Careful grading will give better bottled fruit.

Mixed and Fancy Packing. Mixed fruit for pies or serving as fruit salad makes a change. The fruit is usually packed in even layers to allow for a good mixture. Soft fruits such as raspberries, currants, loganberries, gooseberries make a good fruit salad mixture. Fancy packs such as redcurrants in raspberry hulls look attractive and are useful for flans. Pack with redcurrants facing outwards. Alternate layers of halved stone fruit with the cut face alternating with the uncut look good and are simple to pack. The kernel of the stone may be put in the cut side facing outwards. Sliced peaches arranged in layers going different ways make an appeal to some show judges. There are many other attractive ways of packing the fruit into the jars but the essential thing is to get as much fruit into the jar as neatly as possible and with as few air spaces between the fruit as is practical without bruising the fruit.

METHODS OF PROCESSING BOTTLED FRUIT

The essential point about processing bottled fruit is that it shall be brought to a sufficiently high temperature to destroy the organisms which attack it and inactivate the enzymes.

The temperature required depends on three things :

1. The acidity of the fruit. The more acid the fruit the lower the temperature required for destroying bacteria.

2. The density of the fruit in the jar as the larger jars and more tightly packed jars take longer for the heat to penetrate.

3. The purpose for which the fruit is intended e.g. for pies, needs to be firmer and less well cooked than for fruit salad.

The heat is applied in two ways:

By means of a water bath.

Direct by heating in an oven.

PROCESSING BY WATER BATH METHOD

Slow water bath method using a thermometer. This gives the most perfect and even results because the temperature is slower and more evenly controlled, but it takes a long time and requires special equipment.

Method.

Pack fruit into jars.

Fill with *cold* syrup.

Put on the rubber band, cover with lid and close, using spring-clip or screw-band.

If using screw-band, after screwing tight give a half-turn to release slightly to allow for escape of expanding air. If this is not done the jars may build up pressure and explode.

Put into prepared sterilizer making sure that bottles do not touch the bottom of pan or one another.

Fill sterilizer with *Cold* water 60 deg.F. and *Completely Cover* jars with water. Put on cover or lid.

Take temperature of water and leave thermometer in pan of water.

TIMES FOR PROCESSING BOTTLED FRUIT

INDIRECT HEAT (WATER BATH)

	Method A Slow water bath using thermometer. Syrup or water added cold *before* processing.
Soft Fruit Blackberries; black and red currants; loganberries; raspberries; strawberries; whortleberries; apple slices; gooseberries and rhubarb for pies.	*Temperature of water bath raised from:* Cold to 165 deg. F. in 90 minutes. Maintain 10 minutes.
Gooseberries and rhubarb. Stone Fruit (whole). Cherries; damsons; greengages; plums. Soft Fruit Rolled in Sugar. Citrus fruits; grapefruit; lemon and orange.	Cold to 180 deg. F. in 90 minutes. Maintain 15 minutes.
Solid Pack. Apples; peaches; apricots halved; plums halved; strawberries (previously soaked in syrup).	Cold to 180 deg. F. in 90 minutes. Maintain 15 minutes.
Pears. Tomatoes (whole).	Cold to 190 deg. F. in 90 minutes. Maintain 30 minutes.
Solid Pack Tomatoes.	Cold to 190 deg. F. in 90 minutes. Maintain 40 minutes.

TIMES FOR PROCESSING BOTTLED FRUIT

INDIRECT HEAT (WATER BATH)

Method B Quick water bath without thermometer. Syrup or water added hot (140 deg. F.) *before* processing.	Method C Pressure pan using 5 lb. pressure. Syrup or water added boiling *before* processing.
Temperature of water bath raised from: Warm (100 deg. F.) to simmer (190 deg. F.) in 25-30 minutes. Maintain 2 minutes.	*Raise temperature from hot to 5 lb. pressure in 5-10 minutes.* Maintain 1 minute. Cool 10 minutes.
Maintain 10 minutes.	Maintain 1 minute. Cool 10 minutes.
Maintain 20 minutes.	Maintain 3-4 minutes. Cool 10 minutes.
Maintain 40 minutes.	Maintain 5 minutes. Cool 10 minutes.
Maintain 50 minutes.	Maintain 15 minutes. Cool 10 minutes.

Heat gradually to 130 deg.F. in 1 hour and to required temperature in 1½ hours, 165deg.F. – 180 or 190 deg.F. according to kind of fruit. See chart for details.

Maintain at required temperature 10–40 minutes. See chart for time required for different fruits.

Remove carefully from sterilizer and put on a heat-resistant surface out of a draught. Tighten screw-bands at once.

Leave overnight until completely cold.

Test for air tight seal by removing clip or screw-band and lifting jar by lid.

Label clearly giving type of fruit, date and if desired method of bottling.

Store in a dark cool place.

Use with pride and pleasure.

N.B. The temperature must be raised gradually and held for the correct time.

Quick Water Bath Method without thermometers. This method gives very good results. It is quicker than the first method. No thermometer is needed and the sterilizer or water bath may be anything, either bought or home-made as described on page 27.

Method.

Pack the fruit.

Fill with hot syrup 140 deg.F. ("stinging" hot).

Cover with lid. Close using spring-clip or screw-band.

If using screw-band, after screwing tight give a turn to release slightly to allow for escape of expanding air.

Put in prepared water bath making sure bottles do not touch bottom of pan or each other.

Fill water bath with *warm* water 100 deg.F.

Heat for 25 minutes to bring to *simmering* point, that is 190 deg.F.

Maintain at simmering point for 2 to 50 minutes. (See chart for time required for different fruits).

Remove carefully from sterilizer and place jars on a heat-resistant surface out of a draught. Tighten bands at once.

Leave overnight until completely cold.

Test for airtight seal by removing clip or screw-band and lifting jar by lid.

Label clearly, giving type of fruit, date and if desired method of bottling.

Store in a cool, dark place.

Pressure Pan Method. This is a very quick method. The pressure pan should be deep enough to take the bottles and should have a gauge or weight control so that a 5 lb. pressure can be maintained.

Pack the fruit into *warm* bottles.

Fill with *boiling* syrup.

Cover with lid. Close with spring-clip or screw-band.

If using screw-band, after screwing tight give a turn to release slightly to allow for escape of expanding air.

Put hot water in pan, one inch deep.

Put in jars.

Cover with lid *without* pressure weights.

Heat until steam appears through vent.

Place on 5 lb. weight or close vent and heat until 5 lb. pressure is reached.

Time taken for heating up to and reaching pressure should not be less than 5 minutes or more than 10 minutes.

Maintain at pressure for 1–15 minutes. (See chart for time required for different fruits).

Remove from heat and leave for 10 minutes before opening.

This cooling time is important as fruit is still being processed.

Remove pressure weights and lid and take out jars.

Tighten screw bands.

Leave overnight until completely cold.

Test for airtight seal by removing clip or screw-band and lifting jar by lid.

Label clearly, giving type of fruit, date and method.
Store in a cool, dark place.

DIRECT HEAT METHOD

This is usually quicker than by water bath method but does not give such good-looking results. The great advantage is that it requires no special equipment except a good oven where the temperature is known and fairly easily controlled as for instance by a thermostat.

Slow Oven Method. This method is satisfactory for stone fruit, e.g. whole plums.

It is *not* suitable for any solid packed fruit, such as apples and tomatoes, or for citrus fruits, peaches, pears, pineapples, halved plums or strawberries.

Pack the fruit into jars, rather overfilling the jars to allow for shrinkage.

Stand the jars about 2 in. apart on a baking sheet covered with a layer of cardboard or on a sheet of asbestos.

Pre-heat gas or electric oven 15 minutes to required temperature (i.e. at 250 deg. F. or No. ½ gas.) Place tray of jars in the centre of the oven.

Leave in the oven 45–125 minutes according to kind of fruit. See chart for details.

Remove the jars one at a time using gloves or thick cloth.

Stand on a plate, placed on a wooden board.

Fill to *overflowing* with boiling liquid.

Put on heated caps and rubber bands.

Close with spring clip or screw band screwed tightly.

Leave to cool overnight.

Test for airtight seal by removing clip or screw band and lifting jar by the lid.

Label clearly giving type of fruit, date and if desired method of bottling.

TIMES FOR PROCESSING BOILED FRUIT

DIRECT HEAT METHODS

	A. Slow Oven 250 deg.F. No. ½ gas Syrup or water added boiling *after* processing		B. Moderate Oven 350 deg.F. No. 2 gas Syrup or water added boiling *before* processing	
	X	Y	X	Y
Soft Fruits	not recommended		30–40 mins.	45–60 mins.
Gooseberries & Rhubarb for Pies	45–55 mins.	60–75 mins.	„ „	„ „
Gooseberries & Rhubarb for serving without re-cooking	55–70 mins.	75–90 mins.	40–50 mins.	55–70 mins.
Cherries	„ „	„ „	„ „	„ „
Damsons	„ „	„ „	„ „	„ „
Dark Plums	„ „	„ „	„ „	„ „
Apples Solid Pack	not recommended		50–60 mins.	65–80 mins.
Peaches	„	„		
Halved Apricots	„	„		
Halved Nectarines	„	„		
Halved Plums	„	„		
Tomatoes Whole	80–100 mins.	105–125 mins.	60–70 mins.	75–90 mins.
Tomatoes Solid Pack	not recommended		70–80 mins.	85–100 mins.

x=up to 5 lb. (about 3 bottles)
y=5 to 10 lb. (about 6 bottles).

Store in a cool dark place.

The success of this method depends on the speed of filling the bottles with boiling liquid and having the lids and rubber bands hot and getting them on to the jars and sealing as quickly as is humanly possible, otherwise the sterilization will not be complete.

Moderate Oven Method. Pack the fruit into jars.

Fill the jars to within 1 inch of the top of the jar with boiling liquid.

Put on rubber bands and lids and spring-clips if used.

Do not put on screw-bands.

Stand the jars on a baking sheet covered with a layer of cardboard or on a sheet of asbestos.

Pre-heat gas or electric ovens 15 minutes to required temperature 300 deg. F. or No. 1 gas. Place fruit in the centre of the oven.

Leave in the oven 30–100 minutes according to kind of fruit. See chart for details.

Remove the jars from the ovens and if using screw-bands, put them on at once and tighten.

Leave to cool overnight.

Test for airtight seal by removing clip or screw-band and lifting jars by the lid.

Label clearly giving type of fruit, date and, if desired, method of bottling.

Store in a cool, dark place.

PULPING OF FRUIT

This method of bottling fruit is used when wanting to preserve a large quantity of fruit at once, when whole fruit is not required or when a sieved fruit is wanted.

Stew the fruit in a covered saucepan with just sufficient water to prevent sticking or burning.

Prepare the bottles and lids and see that they are hot.

Bring the fruit to the boil, and when boiling vigorously pour into the hot jars.

Put on rubber bands and lids. Seal at once with spring-clips or screw-bands screwed on tightly.

Put into a saucepan of hot water with a rack or paper at the bottom. See that the jars are completely covered with the water.

Bring the water to the boil and boil 5 minutes.

Remove from the pan and stand on a heat resistant surface out of a draught.

Leave to cool overnight.

Label clearly, stating type of fruit and date.

Store in a cool dark place.

If wishing to sieve the fruit after cooking pass the fruit through a nylon or hair sieve and return to a clean pan and reboil before bottling.

The chart on page 37 is a time guide for processing fruit using the direct heat of the oven. These methods are very suitable for certain fruits included in the chart. The greater the quantity of fruit in the oven at once the longer the time required for processing, so the chart gives times for up to 5 lb. fruit and from 5–10 lb. This means usually 3 bottles and up to 6 bottles, and as a handy reference the times are given for X and Y quantities.

X=up to 5 lb., i.e. about 3 bottles.

Y=5–10 lb., i.e. about 6 bottles.

CANNING OF FRUIT

This method of preserving is simply "fruit bottling" in a metal container. The differences are in the method and time taken for sterilizing and also in the equipment used.

Canning of food at home is only worth while if there is a regular and considerable quantity of fruit to be dealt with, which justifies the capital outlay involved in the purchase of the canning or sealing machine and in the regular outlay for new

cans which are fairly expensive. Communal village or neighbourhood canning centres seem the best answer to avoid waste and to ensure the maximum use of the equipment.

The advantages of canning as compared with bottling are that it is reasonably quick and the cans are easy to store and to handle and transport.

Canning makes use of the same principles of preserving as bottling. Heat is used to destroy the micro-organisms and the can is already sealed to prevent further contamination. The sterilizing takes place after the can is sealed.

SELECTION AND PREPARATION OF FRUIT

Fruit for canning should be graded and selected in the same way as for bottling. The methods of preparing the individual fruits are given on page 22 under the section dealing with bottling. Only first quality fruit should be used.

Syrup for canning is made in the same way as for bottling and it is essential to use syrup and not water. The density of the syrup depends on the type of fruit. The usual guide is to allow a heavy syrup with fruits such as peaches, halved Victoria plums and strawberries. Most other fruits are perfectly satisfactory in a medium syrup.

EQUIPMENT FOR CANNING

Canning Machine. There is only one maker supplying machines on the market and it costs about £18. 18s. This will seal all the usual sizes of cans made for home canning.

Cans. There are two main sizes.

Size "A2½" with a capacity of 30 fluid oz. i.e. 1½ pt. and 1 lb. size with a capacity of 16 fluid oz., i.e. ¾ pt. approx.

Cans are made of tinned steel plate and for home canning are sold with an open end with a flange at the top to fit the lid. During the *sealing* process the lid and can are joined together by rolling and tucking in and pressing the two edges tightly

together making a completely airtight seal. There are three types of finish used on the inside of the can.

Plain. That is the tinned steel surface which is suitable for green or colourless fruits and certain vegetables, for example,

green plums	carrots
apples	asparagus
gooseberries	celery
yellow plums	broad beans

Fruit lacquered cans suitable for all other fruits. Fruit lacquered cans may be safely used for all fruits, but are *essential* for all black-currants, damsons, rhubarb, raspberries, etc., and all other red and purple coloured fruits. Always examine lacquered cans inside to ensure that there are no scratches.

Sulphur lacquered cans. These are used for all other types of vegetables and will be dealt with in detail in a later chapter.

Care of cans. See that they are clean before use. Examine for dents and bends as these may prevent proper sealing. Some minor distortions may be straightened with the fingers. Rinse in cold water before use. Leave to drain upside down, as drying with a cloth may scratch or remove lacquer. Treat the lids in the same way.

Sterilizer. This should be a vessel similar to the ones described for fruit-bottling. It may be much larger and should always be fitted with a false bottom made of wood or wire. A very suitable sterilizer is a gas-heated wash boiler or washing machine as the rate of heat recovery is good, and it is large enough to take a number of cans and so saves time and trouble.

Tongs for lifting cans. They are useful, though the cans may be placed in a *string bag* and lifted out together. The latter is particularly useful when sterilizing different types of fruit at the one time, each batch being put in a separate bag.

Small Equipment such as scales, trays, knives, packing spoons, jugs, bowls, muslin cloths, chopping-board, scissors and asbestos gloves or rubber gloves to aid handling.

Labelling of hot filled cans. Chinagraph pencils are useful for marking cans before sterilising. Final labelling use large wrap-round labels for cans rather than small jam or bottle labels which will not stick to the tinplate.

Water. This must be available in large quantities mainly for cooling the cans after sterilization as this must be done *quickly*. Therefore two sinks come in handy or one sink with a hose pipe running into a zinc bath, the bath placed so that when overflowing it drains conveniently into an outside drain.

Clock or **Watch** with minute hand for accurate time recording.

METHOD OF CANNING

Select and prepare fruit as for bottling.

Make Syrup and strain through fine muslin into a clean pan. Keep at boiling point and covered to prevent evaporation and consequently increase in density of syrup.

Pack fruit into rinsed and drained cans, following the rules given for fruit bottling.

Syrup must be at boiling point and poured into the packed fruit to within $\frac{3}{8}$ in. of the top. (This allows space for the lid to fit into the can). Cover at once with the lid. The steam from the syrup drives the air from the can, so do not allow to cool before sealing.

Seal the cans immediately they have been filled with boiling syrup and covered with the lid. Follow makers' instructions for use of sealing machine and for care and maintenance.

Sterilizing. The batches of cans marked with chinagraph pencil are put into the sterilizer. The water *must* be boiling and *must* cover the cans. The placing of the cans in the water will lower the temperature and the greater the number of cans the cooler it will become and therefore longer time will be required to reboil. It must in no case take *longer* than 20 minutes to reboil.

Time for sterilizing varies with:

type of fruit,
time of recovering to boiling point,
size of can.

A chart at the end of this section gives details of times and should be followed very carefully.

Cooling the cans is essential and should be done as quickly as possible to prevent fruit overcooking. Place in a large sink or bath filled with running cold water. Remove when the cans are at blood heat, tested by rolling cans in the hands, and allow to dry by themselves.

N.B. Cans will be found to have slightly convex ends when hot and during cooling metal will contract and become concave. It often "pops" with a slight noise.

Labelling. This is done when cold. Use large encircling labels so that paper sticks to paper and give type of fruit, batch number and date.

Store in a cool, dry place. Canned fruit keeps well for 2–3 years.

UNSATISFACTORY RESULTS

These show themselves in two ways.

Blown cans i.e. the ends bulge outwards, which may be due to:

(*a*) under sterilization—not sufficient time given,
(*b*) allowing the cans to stand with the boiling syrup too long before sealing,
(*c*) the acid in the fruit attacking the metal and generating a gas.

Leaks due to faulty cans or inaccurate sealing of the lid to the can.

These can usually be detected during sterilization as air bubbles may be seen to rise from the leak. Such cans should be removed and the contents used or put into new cans and sterilized.

WEIGHT OF FRUIT IN CANS

This is of importance if the canned fruit is to be sold, but it is equally interesting for the housewife who likes to count the cost of her products and compare them with the commercial variety.

"A2½" size can with capacity of 30 fluid oz. i.e. 1½ pt. of fruit.

Stone fruit e.g. plums, damsons, etc., 18 oz. average.

Soft fruits e.g. raspberries, black-currants, etc., 17 oz. average.

Solid pack apples, 26 oz. average.

Solid pack tomatoes, 27 oz. average.

Apples in syrup, 16 oz. average.

CHART FOR TIMES OF STERILIZING FRUIT

	Time for REBOIL	Time for BOILING
Apples, Apricots	0– 5 mins.	18–15 mins.
Blackberries	6–10 „	15–13 „
Damsons		
Gooseberries	11–15 „	12–10 „
Loganberries		
Plums	16–20 „	10– 8 „
Raspberries		
Rhubarb		
Strawberries		
Apples (solid pack)	0– 5 „	22–20 „
Black-currants	6–10 „	20–18 „
Cherries		
Pears (ripe)	11–15 „	17–15 „
	16–20 „	15–13 „
Tomatoes (whole)	0– 5 „	35–32 „
	6–10 „	32–30 „
	11–15 „	30–27 „
	16–20 „	27–25 „
Tomatoes (solid pack)	0– 5 „	45–42 „
	6–10 „	42–40 „
	11–15 „	40–37 „
	16–20 „	37–35 „

TIME FOR PROCESSING CANNED FRUIT

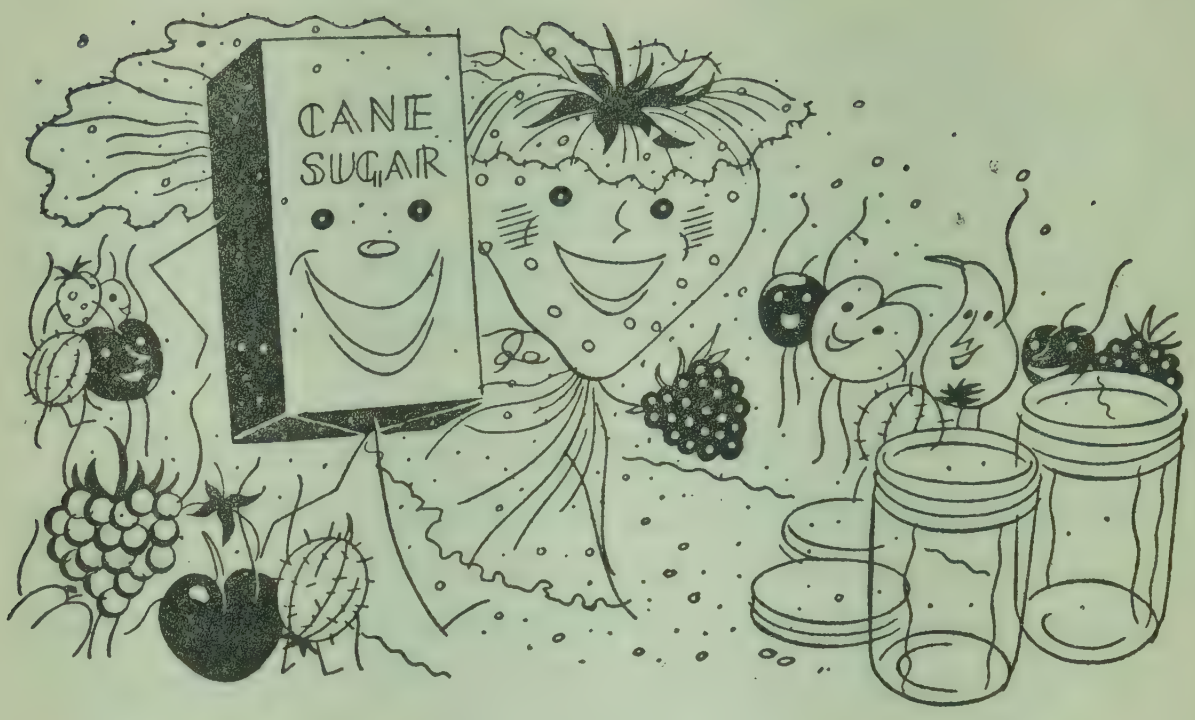
The time allowed for the cans to be in boiling water depends on the time it takes for the water to return to boiling point after the cans are loaded into the sterilizer. It is very important to note the time taken for the water to recover to boiling point and then allow the correct number of minutes for boiling.

ORGANIZATION FOR CANNING

Because successful canning is dependent on speed of filling and sealing, and involves the use of a machine it is useful to plan the sequence of work to allow for a clear run and to save time, labour and temper. This is very, very important if two or more people are engaged in a communal effort, and a decision as to the allocation of duties and responsibilities should be arrived at before starting work. The economical number of cans to be sterilized at once is 10–20, according to size of sterilizer and based on this estimate it is fairly easy to plan a time-table, which will allow for preparation, syruping, sealing, sterilizing and cooling. Time should also be allowed for cleaning up, and an interval for tea or coffee otherwise communal efforts may end in revolution and frayed tempers.

Method. Sequence of Work.

Wash and drain cans.
Prepare machine.
Prepare sterilizer.
Make syrup.
Prepare fruit.
Pack fruit.
Pour on boiling syrup and cover with lid.
Seal cans and mark.
Sterilize according to fruit and weight of can.
Cool.
Label and store.



SECTION 2

JAM-MAKING

THIS method of preserving fruit makes use of heat and sugar as preserving agents. It is essential when making a good keeping jam to make sure that when it is completed it contains at least 60% of added sugar to prevent the development of yeasts and moulds. This means that not more than 5 lb. jam should result from 3 lb. sugar. Covering of jam is important. That is why waxed paper circles are put on the jam while the jam is still hot to form a seal. A further protection is given by the use of a parchment paper or good Cellophane put on either when the jam is hot or when quite cold, but not when warm. If less than 60% of added sugar is in the final jam, then it is necessary to use a type of cover which forms a vacuum and seals the jar carefully, similar to those used for fruit bottling, unless the jam is only to be left for a few weeks.

Jam-making is the most customary method of fruit preservation used by urban and country housewives, because it makes.

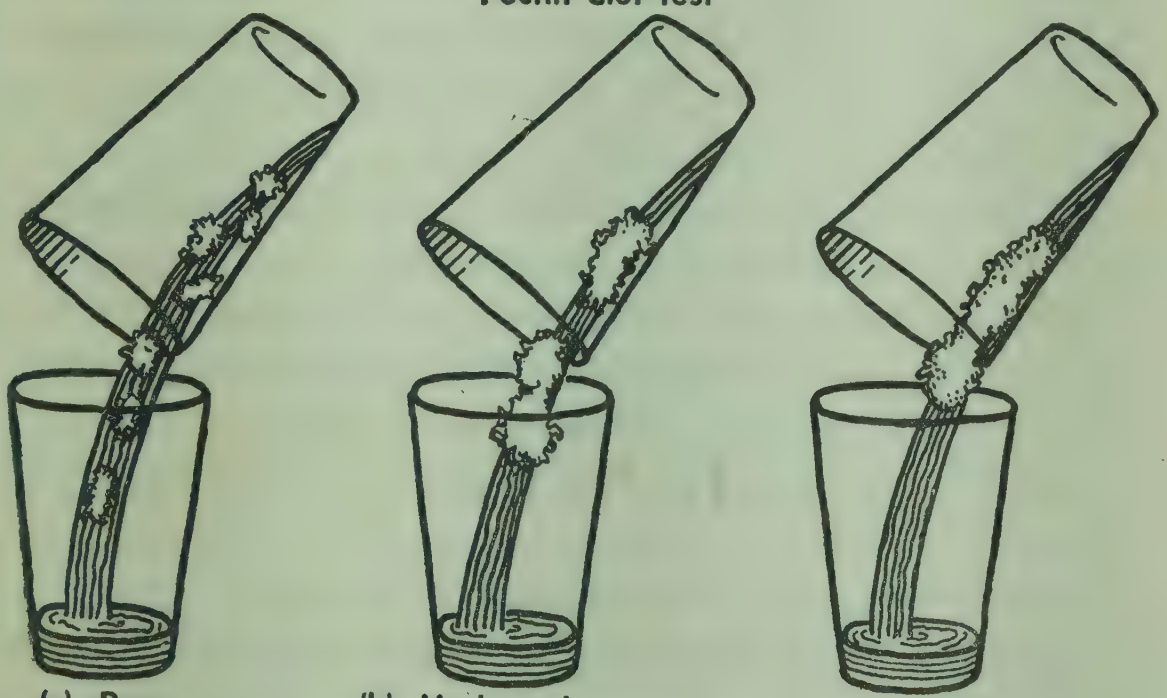
an attractive preserve and is a real economy, particularly when using home-grown fruit or fruit bought during glut seasons. It is not always easy to get really good results and many an enthusiastic amateur jam-maker has had such bitter disappointments that she has given up in despair and resorted to the reliable comfort of the grocer's expensive, and often rather flavourless, product. This may be due to a lack of understanding of the principles involved in jam-making, so let us examine them and see what it is that makes for good jam.

The Ideal. Jam should be clear and bright in colour and taste fresh and fruity, be just set enough, neither runny nor yet too stiff, and last, but by no means least, *it should keep well.*

PRINCIPLES OF JAM-MAKING

Ingredients. Jam is the result of fruit and sugar being boiled together. In fruit there is a substance called pectin, which when it is boiled with sugar and acid forms a gel. It is important that sufficient acid is present to help the release of the pectin from the fruit to brighten the colour of the jam, to give it a pleasant flavour and to keep it set.

Pectin Clot test



(a) Poor (b) Moderately good (c) Good

Three factors are necessary to obtain a good jam: Pectin, Acid and Sugar.

Pectin. All fruits contain some pectin—under-ripe and over-ripe fruit contains less than firm-ripe fruit, but a mixture of over-ripe and under-ripe serves well for jam. Dry fruit, pound for pound, has more pectin than wet fruit. Some fruits, such as black-currants, contain more pectin than fruits such as strawberries. Pectin is extracted from the fruit by softening the skins and breaking down the cell walls by cooking. The presence of acid is necessary for this process.

Pectin in Fruit

Rich in pectin	*Medium*	*Poor*
apples (cooking)	apricots	strawberries
currants, red & black	blackberries	cherries (sweet)
damsons	greengages	pears
gooseberries	loganberries	elderberries
plums (very acid varieties)	raspberries	figs
	most plums	mulberries
cranberries	peaches	rhubarb
lemons		medlars
quinces		

Test for Pectin. It is very often useful to test for the pectin content of the fruit, as the amount present varies with the season and quality of the fruit.

Method. Simmer the fruit with a little water to soften the skins as for the first steps in jam-making.

Take one teaspoonful of fruit juice and put in a glass.

When cool add 3 teaspoonsful of methylated spirits.

Shake together gently and leave one minute.

A semi-transparent, jelly-like substance will be formed.

Result. If it is :

A whole firm clot, the pectin content is good.

A less firm clot broken in to 2 or 3 pieces, the pectin content is moderate.

The clot is broken into numerous pieces, the pectin content is poor.

The reason for this test is to decide how much sugar is needed. The more pectin present, the more sugar will be used; and less pectin, less sugar.

Usual proportions of Sugar and Fruit.

Fruit rich in pectin to every 1 lb. fruit, allow $1\frac{1}{4}$–$1\frac{1}{3}$ lb. sugar.
Fruit medium in pectin to every 1 lb. fruit, allow 1 lb. sugar.
Fruit poor in pectin to every 1 lb. fruit, allow $\frac{3}{4}$ lb. sugar.

Adding Pectin. It is sometimes desirable and necessary to add pectin as well as acid to fruit and this may be done by using home-made pectin stock or commercial liquid or powdered pectin, usually made from apples. The other alternative is to mix fruits or fruit juice rich in pectin to those poor in this substance.

Commercial Pectin. To 1 lb. fruit poor in pectin add 2–4 oz. liquid pectin or $\frac{1}{4}$ oz. powdered pectin.

Pectin Stock. 2 lb. apples, gooseberries or red-currants, $1\frac{1}{2}$ pt. water.

Wash and cut up fruit where necessary, put in the pan with water and simmer for about $\frac{3}{4}$–1 hr. Mash down the fruit, then strain for about 10–15 minutes. Return the juice to a pan and bring to the boil, pour immediately into small bottling jars, seal at once and finish by immersing in a pan of hot water and boiling for 5 minutes. Use in the same way as commercial pectin.

The addition of too much pectin to jam makes it very stiff and gives it a flat, uninteresting flavour.

Acid. All fruits contain acid, some more than others. That is why acid has to be added to certain jams to ensure the proper extraction of the pectin and to keep the set. Vegetables used for jam-making, such as marrow, pumpkin or tomatoes, all have acid added to them.

Fruits poor in acid. Strawberries, cultivated blackberries, pears, sweet cherries, sweet varieties of apples.

Addition of acid to jam. Acid is added to the jam before the first softening and cooking process to help the extraction of the pectin.

The following substances provide a suitable acid to add to fruit or vegetable jam.

To every 4 lb. fruit add :

2 tablespoonsful lemon juice, 1 level teaspoon citric or tartaric acid, ¼ pt. red-currant or gooseberry juice.

Sugar is added to fruit to make it into the characteristic jam and sufficient quantity is needed to make a good jel and to ensure that it will keep. If too much sugar is present the jam will crystallize, if too little it will ferment. So the correct proportions are essential and dependent on the presence in the fruit of the correct proportions of the two other essential items. Normally 60% of added sugar should be present in good-keeping and well-set jam: that means when 3 lb. of sugar is being used the final result will be 5 lb. of jam. When less sugar is used the jam will have to be specially covered and stored to prevent spoilage.

Summary. To make a good jam it is necessary to have:

Fruit at the right stage of ripeness so that there is sufficient pectin present to make the jam set.

The fruit should contain enough acid to help in the extraction of pectin and in setting and to give the jam its characteristic brightness and good flavour.

Acid and pectin may be added in one form or another to fruits poor in these substances.

Sugar in the right proportions to enable the jam to set correctly and keep well.

METHOD OF COOKING JAM

Having discussed the ingredients which make a good jam, it is important to look at the method of mixing and cooking the ingredients to ensure a successful jam.

Fruit should be examined and bad fruit removed, rinsed in cold water if this is needed, then weighed.

Soften the fruit for two reasons: to break down the fruit and extract the pectin and to break down the skins and soften really well *before* adding sugar otherwise the skins will remain tough and uneatable. e.g. black-currant jam like black boot buttons.

Water is required for the softening and first cooking process. The amount varies with the type of fruit, e.g. black-currants and plums take longer to break down and soften than raspberries ; with the type of pan (a shallow pan causes quicker evaporation) and with the season. Wet fruit needs less liquid than dry. Sufficient water is needed to allow fruit to be softened and cooked without sticking to the bottom of the pan.

Acid should be added to fruits which have little acid at the beginning of the softening process.

Pectin test is carried out after fruit is softened and cooked. Add extra pectin at this stage.

Sugar is added in correct proportion according to pectin content of fruit. The sugar may be " loaf ", "preserving" or "granulated" sugar and either cane or beet sugar is equally satisfactory. Granulated sugar is the simplest to use as it dissolves most easily.

Dissolve sugar in fruit pulp completely before allowing the jam to boil again, using sufficient heat and stirring well. Warming the sugar first helps to quicken this process, but it is not essential.

Boil the jam *quickly* for 3–20 minutes according to type of jam, and the quantity, stirring very occasionally and very gently.

Test for set. There are three ways of testing for set. (See below.)

Skim the jam just before putting into pots. Remove from the heat, and with a clean spoon remove the scum which may have

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formed on the surface. A perforated spoon dipped in boiling water is the best and most economical weapon to use. Skimming during the boiling of jam is wasteful of time and material.

Pour the jam into clean, dry, warm pots. Stand pots on a heat-resistant surface to avoid cracking.

When pouring jam such as strawberry or other whole fruit, and marmalade, allow the jam to cool until a skin forms before pouring into jars. This helps to hold the fruit in suspension in the jam, otherwise it will rise to the top.

Stir well before pouring.

Fill right to the top of the jar to allow for shrinkage and to leave the smallest possible air space under the cover. Wipe the mouth of the jar.

Cover the top of the jam with waxed paper circles, making sure that they fit neatly over the surface without air bubbles underneath. This forms an airtight seal of wax on the jar and protects the jam from the micro-organisms in the atmosphere.

Tie down the outer cover over the top of the jar when the jam is still very hot. Or, cover the jars with a clean cloth while the jam is cooling and when cold tie down the outer covers.

Label, showing date of making, type of jam and variety of fruit, if desired.

Store in a cool, dark, dry place.

TESTS FOR SETTING POINT IN JAM-MAKING

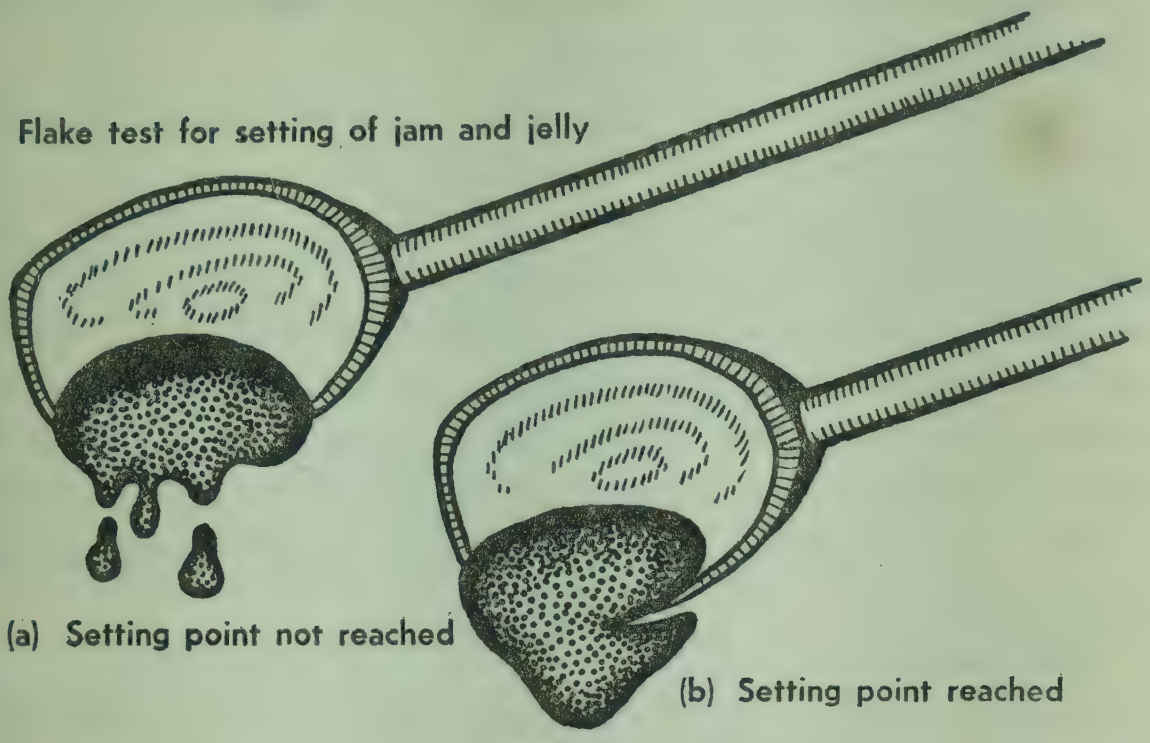
Temperature Test. Use a thermometer with degrees marked above 222 deg.F.

Put the thermometer in boiling water.

Stir jam well.

Put in thermometer, taking care the bulb does not touch pan.

A temperature of between 220 deg.F. and 222 deg.F. indicates a proper proportion of sugar present and that the jam will set. The higher temperatures are needed for jams with poor pectin content.



Flake Test

Put a clean wooden spoon in jam.

Take spoon away from jam and hold it horizontally until the jam on it has slightly cooled.

Allow jam to drop from edge of the spoon.

If jam is ready to set, the drops will run together to form flakes, which break off in a whole piece.

Cold Plate Test

Drop some jam on a cold plate.

After cooling, test with a finger.

If the surface crinkles and appears set when poked, the jam is ready.

EQUIPMENT FOR JAM-MAKING

Jam Pans or Preserving Pans. These may be made of any strong suitable metal, e.g. stainless steel is ideal but expensive. Copper or brass has the effect of destroying a higher proportion of Vitamin C than other metals and it is therefore not ideal as a jam pan.

Aluminium pans are satisfactory if they have a good thick base. Thin pans will burn easily.

Enamelled pans providing they are undamaged are also good. Do not use chipped or cracked pans.

Do not use galvanized metal or untinned iron pans as the acid in the fruit will attack the metal.

Shape of pans is important. A fairly deep pan is more useful than a shallow pan, as it prevents too rapid evaporation of water during the first softening and cooking process. Pans should never be more than *half-full* after the sugar has been added. This allows for the rise in level during the rapid boiling of the jam.

Miscellaneous

Spoons. Long-handled wooden spoons are needed for stirring. A long-handled perforated spoon for skimming.

Thermometer is desirable but not essential.

Stone basket is useful to hang on side of pan to catch stones removed during cooking.

Funnel for filling jam pots. This makes it easier but it is not essential.

Sauce boat, jug or cup for use in filling pots.

Saucers, basins, colander, muslin and other kitchen utensils, including pastry board or heat-resistant board to stand jam pots on during filling.

Kitchen scales are desirable to check weight of fruit.

Jam pots. These may be bought or saved from year to year. They are usually made to a standard size with a standard neck opening.

Jam covers. Waxed papers circles are essential and are obtainable in sizes for 1 and 2 lb. jars.

Outer covers are made of a variety of materials. Parchment papers, Cellophane or other transparent papers are very good and moulds do not develop easily. Compressed paper covers and metal covers are not so good as they encourage mould.

Fine, soft string and/or elastic bands for fixing covers.
Labels with space to write type of jam and date etc.

JAM RECIPES

All the recipes given below have been tried and tested and given reasonably normal conditions make very good reliable jam, but if the season is wet or very dry,
if the pan is very deep or very shallow,
if the scales are unreliable,
if the greengrocer is unreliable,
if the boiling is too slow or too quick,
if anything else goes wrong, maybe the results won't be as perfect as is hoped.

To remind you, the steps in jam-making are :
Prepare fruit.
Soften and cook with or without water to extract pectin.
(a) add acid if necessary before starting the first cooking.
(b) add pectin if necessary after first cooking.
Add sugar and dissolve completely, stirring to prevent sticking.
Bring to the boil.
Boil rapidly.
Test for set.
When ready: 1. Remove from heat.
2. Remove scum.
Pour into warm, dry, clean jars.
Cover immediately with waxed paper circles.
Cover with outer cover while hot or when cold.
Label and store in cool, dry, dark place.

Apple Ginger

3 lb. apples
4 pt. water
4 oz. preserved ginger
3 lb. sugar
1½ oz. ground ginger

Prepare the apples by coring, peeling and chopping roughly. Stew gently in water until well pulped. Add the ground ginger and sugar. Stir till it boils, then allow to boil hard till it will set on a plate. Stir in the preserved ginger, chopped small, and boil again. Pot and cover. A good substitute for ginger marmalade.

Apple & Apricot

10 lb. windfall apples after preparation
1 lb. dried apricots
Sugar (see recipe)

This is an excellent way of using windfall apples. Chop the apricots and soak in a pint of water overnight. Stew the apples and, if necessary, sieve them, but if they are of a good cooking variety they will pulp naturally. Add the apricots to the apple pulp and measure in a pint measure. Add 1 lb. sugar to 1 pint of mixture. Bring to the boil and boil fast till it sets. This jam should be a very lovely golden colour.

Apple & Rosehip

2 lb. rosehips (fully ripe)
2 lb. apples, chopped after preparation (windfalls will do)
1¾ lb. sugar

Put the rosehips into a pan with 3 pints water and simmer till well broken down and tender, breaking up with a vegetable presser or potato masher. Strain through a felt jelly-bag or fine muslin in a strainer. Cook the prepared apples until they form a fine pulp, adding a little water if absolutely necessary. Add the rosehip juice and the sugar and boil until the jam sets.

Apricot (Fresh Fruit) · *Yield 5 lb.*

3 lb. fresh apricots
½ pt. water
3 lb. sugar

Wash the fruit, cut in halves and remove the stones. Place the apricots in a preserving pan with ½ pt. of water. Remove the kernels from a few stones, blanch by dipping in boiling

water and add the halved white kernels to the fruit. Allow to simmer until tender and bulk reduced. Add the sugar, stir and bring to boil, then boil fast until the jam sets.

Apricot (Dried Fruit) *Yield 5 lb.*

1 lb. dried apricots
3 lb. sugar
3 pt. water
3 oz. almonds
juice of 2 lemons *or*
1 teaspoon citric or tartaric acid.

Soak the apricots in the water for at least 24 hours. Then place fruit and water in preserving pan and simmer for ½ hour. Add lemon juice, sugar and blanched almonds, finely shredded. Stir well, bring to the boil and boil hard until mixture sets.

Blackberry *Yield 5 lb.*

3 lb. blackberries
3 lb. sugar
2 tablespoons lemon juice *or*
¼ pt. apple juice *or*
½ level teaspoons citric or tartaric acid.

Place the blackberries with about quarter of a tumbler of water and the acid or lemon juice into a preserving pan. Simmer until fruit is cooked and reduced. Add the sugar, stir and bring to boil, then boil hard until it sets when tested. If apple juice is used, add with the sugar.

Blackberry & Apple *Yield 5 lb.*

2 lb. blackberries
¾ lb. prepared cooking apples
3 lb. sugar
¼ pt. water

Place the blackberries in a pan with a very little water and stew over a low flame until tender. Add the sliced apples and cook until soft. Stir in the sugar and boil fast until set.

Seedless Blackberry & Apple

Yield 5 lb. for each 3 lb. of sugar used.

2 lb. blackberries
¾ lb. prepared cooking apples
sugar (see recipe)
¼ pt. water

Stew the blackberries in half the quantity of water till tender; sieve to remove seeds. The weight of the sieved pulp should be at least 1 lb. Cook the apples to a pulp in the remaining water. Mix blackberries and apple, weigh the combined pulp and weigh out an equal quantity of sugar. Boil the pulp until thick, add the sugar, stir well, bring to boil and boil rapidly until the mixture sets.

Blackberry & Sieved Elderberry *Yield 5 lb.*

2 lb. blackberries
1¾ lb. elderberries (stemmed)
3 lb. sugar
⅜ pt. water

Stew the elderberries in the water until tender, then sieve to remove seeds. Cook the blackberries in the strained pulp for about 10 minutes until soft. Stir in the sugar and boil hard to setting point.

Black-currant *Yield 5 lb.*

2 lb. black-currants
3 lb. sugar
1½ pt. water

Wash and stem the fruit and place in pan with the water. Simmer until soft and considerably reduced. Stir the pulp as it thickens to prevent burning. Add the sugar, stir and bring to the boil, continue boiling rapidly until jam begins to set.

Cape Gooseberry

4 lb. Cape gooseberries
3½ lb. sugar

Wash the fruit and remove the stalks. Simmer gently without added water till tender and well broken, pressing with a wooden spoon to burst the fruit. Stir in the sugar, then boil quickly until the jam sets.

Cherry *Yield 6 lb. approx.*

5 lb. Morello cherries, stoned
1 large lemon *or*
2 level teaspoons citric or tartaric acid
3½ lb. sugar
a little water

N.B. When using sweeter varieties of cherries, such as "May Duke", double the quantity of acid.

Stone the cherries and tie the stones in a muslin bag. Put cherries, stones and acid in a preserving pan. Cook gently to simmering point then simmer for ½ hour until the cherries are tender. Stir in the sugar and bring to the boil. Boil rapidly to setting point and then remove the stones.

Cherry & Red-currant *Yield 5 lb.*

2 lb. May Duke, Kentish Red or Morello cherries
3 lb. sugar 2 lb. red-currants

Cook the red-currants over a gentle heat pressing well with a wooden spoon until well broken down and the juice runs freely. Strain through a fine strainer or a jelly-bag. Stone and cook the cherries. Add the red-currant juice and sugar to the cherries, dissolve the sugar and bring to the boil. Boil fast without stirring until setting point.

Cranberry *Yield 5 lb.*

3 lb. cranberries 3 lb. sugar
½ pt. water

Rinse the berries and cook gently in the water till tender and well broken down, stirring well. Add sugar, stir until dissolved, then boil hard without stirring until jam sets on testing. This is a tart-flavoured jam, which goes well with meat or poultry instead of jelly.

Damson *Yield 5 lb.*

2½ lb. damsons 3 lb. sugar ½–1 pt. water

Put the damsons in the water in a pan, bring to the boil and simmer until the fruit is well broken down. Add the sugar, stir to dissolve, bring to boil again and continue boiling briskly until it begins to set. Remove stones as they rise to the surface.

Damson & Marrow

Yield 5 lb. for each 5 lb. sugar used

1½ lb. damsons sugar
1½ lb. marrow, peeled ½ pt. water

Stew the damsons in half the water until soft, then rub them through a sieve with a wooden spoon. Cut the marrow into neat pieces and cook them in the remainder of the water, gently at first to draw the juice from the marrow, then more quickly until it is soft and easily mashed. Add the cooked damsons and weigh the combined fruit. Weigh out 1 lb. sugar to 1 lb. pulp. Stir in the sugar until dissolved, then boil rapidly until it sets on testing.

Gooseberry *Yield 5 lb.*

$2\frac{1}{4}$ lb. gooseberries 3 lb. sugar

$\frac{3}{4}$ pt. water

Prepare the gooseberries by washing, topping and tailing, then cook them slowly in the water, simmering until the fruit is well broken down. Stir in the sugar to dissolve and boil rapidly to setting point.

Greengage *Yield 5 lb.*

3 lb. greengages 3 lb. sugar

$\frac{1}{4}$–$\frac{1}{2}$ pt. water

Cut the greengages in half to remove the stones. Break a few kernels out of the stones. Put the fruit and kernels in the water in a pan and simmer gently until the fruit is tender and the water reduced. Add the sugar and stir until it is dissolved, then boil hard to setting point.

Loganberry *Yield 5 lb.*

3 lb. loganberries 3 lb. sugar

Cook the fruit slowly in a pan, stirring well until it is quite tender. Stir in the sugar to dissolve, then boil rapidly to setting point.

Marrow (chunky) *Yield 5 lb.*

3 lb. marrow, peeled and cut up 3 lb. sugar

Rind & juice of 2 lemons $1\frac{1}{2}$ oz. dried root-ginger

Peel the marrow and cut into cubes, then steam them in a

colander over a pan of boiling water until tender. Put into a bowl and add grated lemon rind and juice and the bruised root-ginger in a muslin bag in the centre. Sprinkle with all the sugar and leave for 24 hours. Place in a preserving pan and heat slowly to dissolve the sugar, then bring to boil and boil rapidly until the marrow is transparent and the syrup will set.

Marrow (pulp)

Yield 5 *lb.* for root ginger, $5\frac{1}{2}$ lb. for crystallized ginger

3 lb. marrow, peeled & cut up	3 lb. sugar
$\frac{1}{4}$ lb. crystallized ginger *or*	2 lemons *or*
1 oz. root-ginger	1 dessertspoon citric or tartaric acid

Boil the marrow until it is soft, drain well and mash. Add the juice and grated rind of 2 lemons and the ginger cut into neat pieces. If dried ginger is used, this should be bruised, put in a muslin bag and cooked with the jam, removing the bag before bottling. Bring to the boil, stir in the sugar and boil for about 20 minutes until thick.

N.B. To bruise the root-ginger, put it in a muslin bag, tied up, and beat it with a weight or rolling-pin. Bruised root-ginger is used in preference to ground ginger because it gives a better flavour and does not affect the colour or clarity of the preserve in the same way.

Mulberry *Yield* 3 *lb.*

2 lb. mulberries	2 lb. sugar
Juice of 2 small lemons	$\frac{1}{4}$ pt. water

Put the mulberries in a pan, with just enough water to cover the bottom of the pan and prevent sticking. Cook till well broken down and skins quite tender. Add the lemon juice and the sugar, stir until dissolved, then bring to the boil and boil quickly until the jam is set.

Plum *Yield 5 lb.*

3 lb. plums 3 lb. sugar

$\frac{1}{4}$–$\frac{3}{4}$ pt. water

Cook the plums gently at simmering point until the skins are softened. Ripe, juicy fruit requires less water than under-ripe fruit. Stir in the sugar till dissolved, then boil rapidly to setting point. Remove as many stones as possible as they rise to the surface.

Plum (Victoria plum jam) *Yield 5 lb.*

3 lb. Victoria plums 3 lb. sugar

$\frac{1}{4}$–$\frac{1}{2}$ pt. water

Prepare the plums by cutting in half and removing the stones. Remove the kernels from some of the stones and add to the fruit when making jam. The number of kernels depends on individual taste, but usually 1 oz. kernels is sufficient. Make jam as above.

Quince *Yield 5 lb.*

2 lb. quinces after peeling, coring and chopping

Water to cover, $2\frac{1}{2}$–3 pt.

$2\frac{1}{2}$ lb. sugar

Cook the fruit in the water slowly, mashing with a vegetable presser as it becomes soft. When thoroughly soft, add the warm sugar and stir till dissolved, then boil quickly until a set is obtained.

Raspberry *Yield 5 lb.*

3 lb. raspberries 3 lb. sugar

Cook the raspberries slowly in a pan until some juice has been extracted, then simmer until the fruit is soft. Stir in the sugar till dissolved, then boil rapidly to setting point.

Raspberry (quick) *Yield 5 lb.*

$2\frac{1}{2}$ lb. raspberries 3 lb. sugar

Put the fruit in a preserving pan, bring to the boil and boil for

10 minutes. Warm the sugar and stir into the fruit until dissolved, bring to boil and boil fast for 2 minutes.

This jam will not set very firmly, but is of a lovely, fresh and fruity flavour.

Rhubarb *Yield 5 lb.*

4 lb. rhubarb peeled 3 lb. sugar
2 lemons *or* ½ pt. currant or gooseberry juice

Cut rhubarb into pieces about 1 in. long and put in a pan with only enough water to prevent sticking. Add the juice of 2 lemons, then cut up the lemons into very small pieces, tie in a muslin bag and place bag in the pan. Bring to the boil, stirring occasionally to prevent sticking. When the fruit is reduced to a pulp, remove the muslin bag and squeeze contents hard into the rhubarb. Heat the pulp until it is thick, then dissolve the sugar in it, bring to the boil and boil until it sets. Remove the scum before pouring into jars. If fruit juice is used instead of lemon, add it with the sugar.

Rhubarb & Ginger *Yield 5 lb.*

3 lb. rhubarb 3 lb. sugar
1 oz. bruised root ginger 6 oz. crystallized ginger

Cut rhubarb into small pieces and put into a large basin, sprinkling with the sugar over each layer, leaving the bruised root-ginger in a muslin bag in the centre. Leave for 24 hours. Turn into a pan and bring to the boil, stirring well, then boil until a set is obtained. Remove the bag of ginger and add the chopped crystallized ginger. Bring back to the boil.

Rhubarb & Loganberry or **Raspberry** *Yield 5 lb.*

2 lb. rhubarb 3 lb. sugar
1 lb. loganberries or raspberries ¼ pt. water

Cook the chopped rhubarb slowly in a little water, until soft. Add the loganberries or raspberries and cook until they

are tender. Stir in the sugar to dissolve, then boil hard to setting point.

Strawberry *Yield 5 lb.*

$3\frac{1}{2}$ lb. strawberries 3 lb. sugar
juice of 2 lemons if desired

Having removed the stalks and hulls, put the strawberries and lemon juice in a pan and heat slowly, stirring constantly to reduce the bulk. Stir in the sugar to dissolve, then boil to setting point. Remove the scum at once, allow the jam to cool until a skin is formed, then stir and pour into jars. If lemon juice is used a firmer jam results.

Strawberry (whole fruit) *Yield 5 lb.*

3 lb. strawberries 3 lb. sugar $\frac{3}{8}$ pt. pectin stock

Place strawberries and sugar in a pan and heat slowly to dissolve sugar. If berries are small and hard, simmer them until soft before adding sugar. Add the pectin stock and boil fast to setting point. Allow to cool until a skin forms, stir and pot. By this method, the strawberries remain unbroken.

Strawberry Conserve

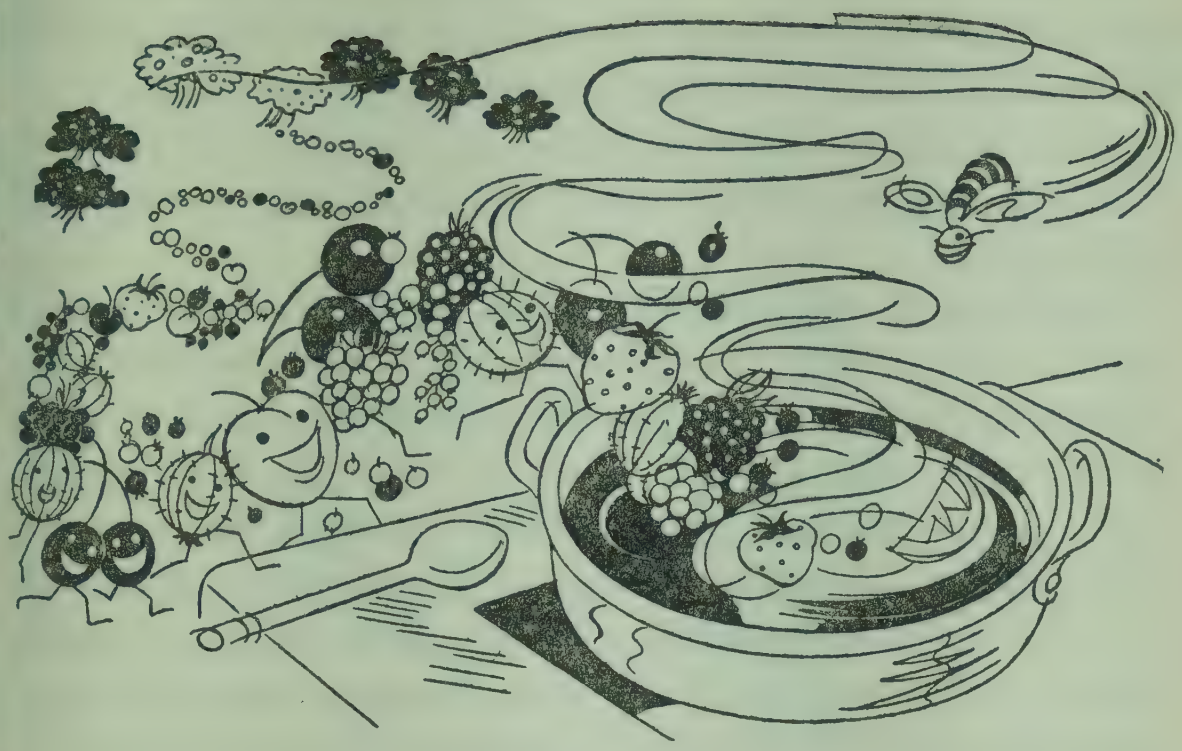
4 lb. strawberries 4 lb. sugar

Put the strawberries in a basin with layers of sugar and leave for 24 hours. Place in a pan and boil for 5 minutes. Return to basin and leave for 48 hours. Place in a pan and boil for 10-20 minutes until set. Cool slightly, stir and pour into jars.

Tomato (red tomato jam)

2 lb. ripe tomatoes 3 lb. sugar juice of $1\frac{1}{2}$ lemons

Skin the tomatoes by holding for a few seconds in boiling water. Chop up roughly and, if necessary, remove the rough piece at the stem end. Bring to the boil, add the lemon juice and the sugar. Stir well until the sugar is dissolved and then boil fast till the jam is set. This jam is of a beautiful colour, unlike any other jam in appearance. A little ginger may be added if desired.



SECTION 3

OTHER FRUIT PRESERVES AND MARMALADES

THERE are many other varieties of preserves made from fruit. All of them are based on the main principles and practices of jam-making but the results are different and for the adventurous amateur hold promise of something rewarding. For example, there are Fruit Jellies, Cheeses, Butters, Syrups and, of course, Marmalades in all their varieties.

FRUIT JELLIES

When making fruit jelly the aim is to have a bright, clear, well-set jelly which tastes richly of the fruit from which it was made. It is worth reminding the enthusiastic newcomer to preserving that jellies are not economical to make. They use a lot of fruit for a small result, but they offer a pleasant variety and a chance to add a home-made speciality to a gourmet's meal.

The method of preserving used is the same as for jam, that is, the use of heat and sugar in sufficient quantities to prevent the re-development of yeasts and other micro-organisms.

The principles of making jellies are exactly the same as when making jam. Three things are necessary : pectin, acid and sugar.

The fruit for jellies should be rich in pectin and acid and have a characteristic flavour which will survive the processes of jelly-making. Suitable fruits are: crab-apple, black-currants, gooseberries, loganberries, wild blackberries, elderberries, red-currants, quinces, whortleberries or bilberries. Cooking apples make good jelly but have a very indifferent flavour, but with the addition of other fruits such as sloes, cranberries mulberry, damson, and herbs such as mint, a well-flavoured interesting jelly will reward the patience of the jelly-maker.

PRINCIPLES OF MAKING JELLY

Fruit should be ripe and fresh so that it has its full content of pectin and acid.

Prepare the fruit simply by washing and removing any bad or damaged fruit and cut away bruised parts from apples. Cut large fruit into pieces to help speed of cooking.

Cook the fruit with enough water to allow the fruit to break down completely and the acid and pectin become dissolved in the liquid. Hard fruit and fruit with tough skins, e.g. black-currants, need enough water just to cover the fruit in the pan. Simmer gently for ¾–1 hour. Cover the pan to prevent excessive evaporation.

Pectin Test is useful after fruit is cooked in order to estimate the quantity of sugar required, (see page 48) and to make sure that the jelly will set. If the clot is poor, further cooking of the fruit is necessary to help extract the pectin.

Strain the fruit pulp through a strong cloth which has first been scalded with boiling water. Use a special jelly-bag or a

cloth tied firmly at each corner to the upturned legs of a chair. Cloths suitable as jelly strainers are felt, flannel, union, unbleached calico; felt will give the clearest juice. Pour the hot pulp into the bag or cloth, first seeing that a good sized basin is in position to catch the juice and allow the pulp to drip for about 1 *hour*. At the end of this time most of the juice will have dripped into the basin. Do not squeeze if wanting a really clear jelly.

The fruit pulp should be strained at once after cooking, while still boiling hot.

Sugar is added to the clear liquid in varying proportions according to the amount of pectin present in the fruit pulp. That is why a pectin test is very useful.

For fruit RICH in pectin allow 1 lb. sugar to 1 pt. juice.

For fruit AVERAGE in pectin allow $\frac{3}{4}$ lb. sugar to 1 pt. juice

Fruits poor in pectin do not make good jellies and if pectin stock is added it usually gives a rather poor flavoured jelly.

Boiling. The measured fruit juice and weighed sugar are put into a clean pan and the sugar allowed to dissolve completely over a low heat, stirring gently. Once dissolved, increase the heat and boil rapidly until setting point is reached, that is 5–20 minutes according to the pectin quality of the fruit pulp.

Test for Set. This is done in the same way as for jam. The flake test shows the setting point very easily.

Skimming. Once setting point is reached the scum should be removed quickly with a spoon dipped in boiling water. If the jelly is wanted for show purposes it is essential to remove all traces of scum. This is most easily done by running the torn edge of a piece of white kitchen paper over the surface of the jelly to pick up the small pieces of scum which escape the spoon. To prevent the formation of air bubbles which spoil the clearness of the jelly, pour the liquid jelly very gently down the side of the warm jars.

Potting. The jelly is poured into warm, clean, dry pots

right up to the top of the jar. Remove any air bubbles. Cover with a wax circle to fit the jar.

N.B. Small ¼ or ½ lb. jars are useful for jellies which are served with meat or game. Most jellies are better put into ½ lb. jars as it saves the breakdown of the jelly during use.

The jelly should be left to stand and set without moving. Cover with a clean cloth supported on a spoon laid flat across the top of the jars.

Tieing Down. The jelly is best tied down when cold. Use the same covers recommended for jam.

Labelling. Label giving type of jelly and date. It is often worth while making a note of pectin strength and sugar used as a guide to future experiments.

Storing. Store in a cool, dry, dark place.

It is important not to keep the strained fruit juice hanging about in the kitchen for days before making into jelly. Recent work has shown that the pectin quality of the juice deteriorates rapidly during keeping, so the golden rule is:

Strain at once after cooking.

Strain for 1 hour only.

Make jelly at once.

EQUIPMENT FOR JELLY-MAKING

Pans. The same type of pans as suggested for jam-making is suitable for jelly-making, but a good big saucepan of heavy aluminium or undamaged enamel will do very well.

Spoons. Wooden and metal teaspoons will be needed.

Straining Bags or Cloths of flannel, felt, union or strong unbleached calico.

Stand for Straining. This may be specially bought but an upturned chair with no cross bars does very well.

Basins. One large one for receiving the strained juice, to fitting on to a stand or an upturned chair seat. Smaller basins for skimming and pectin tests will also be needed.

Miscellaneous kitchen equipment such as scissors, knives, chopping board, colander, muslin and clean tea towels will be needed; also a good measure and scales.

Labels, string, rubber bands, jam pots and covers similar to those needed for jam.

Funnel for filling jars is useful, but as with jam a sauce-boat, cup or bowl will serve as well.

STANDARD METHOD OF MAKING JELLY

Here are the steps in jelly-making which apply to all fruit jellies.

Wash fruit and remove all damaged and bruised fruit. Cut up large fruit.

Simmer with water for ¾–1 hour.

Strain fruit pulp at once for 1 hour.

Test for pectin.

Measure fruit juice and allow weighed sugar according to recipe and pectin strength of fruit.

Dissolve sugar slowly and completely over slow heat in clean pan, stirring gently.

Boil rapidly 5–20 minutes.

Test for set after 5 minutes boiling and at short intervals.

Skim with metal spoon dipped in boiling water.

Pour into clean, warm, dry pots and remove any air bubbles with a teaspoon.

Cover at once with wax circles.

Leave to set undisturbed and covered with a cloth.

Tie down. Label.

Store in cool, dry, dark place.

JELLY RECIPES

Below are given a selection of recipes which, like the jam recipes, should be perfectly satisfactory providing the conditions are normal, and the fruit is at the correct ripeness. The

amount of sugar is given according to the usual pectin present in the fruit, but it is always worth checking the pectin clot particularly in a wet season.

Apple or Crab Apple

4 lb. apples, crab or cooking, 1 lb. sugar per pint of juice
2–3 pt. water

Windfall apples can be used, but crab and cooking apples will give the best flavour. If ordinary apples are used they will need a flavouring, such as ginger, cloves or lemon peel.

Wash and cut up the fruit, keeping only good portions. Cover with water and simmer for about an hour. Test for pectin, strain and measure the yield. Add 1 lb. sugar for every pint of juice. Boil the juice and sugar rapidly to setting point.

Spices, if used, should be cooked with the apples, but essences should be added after the sugar has dissolved and just before setting point is reached.

Blackberry

8 lb. blackberries — 1 lb. sugar to 1 pt. juice
juice of 3 or 4 small lemons *or* — 1½ pt. water
¾ oz. citric or tartaric acid

Wash the fruit, cover with water, add the acid and simmer until the fruit is soft. Then, mash well, test for pectin and strain through a scalded jelly-bag. Measure and add 1 lb. sugar to each pint of juice. Dissolve the sugar and boil hard to setting point.

Blackberry & Apple

4 lb. blackberries — 1 lb. sugar to 1 pt. juice
2 lb. cooking apples — 2 pt. water

You may vary the proportion of apples to blackberries to suit your own taste. Wash the fruit, cut up the apples and put them in a preserving pan with the blackberries. Cook until soft, mash well and strain through a scalded jelly-bag. Add sugar to juice and stir. Boil briskly to setting point.

Black-currant

4 lb. ripe black-currants — 1 lb. sugar to 1 pt. juice
2–3 pt. water

Wash the fruit without taking off the stalks, cover with water and simmer until soft. Mash well and strain through a scalded jelly-bag. Bring to the boil and add the sugar, stirring well to dissolve, then boil rapidly to setting point.

Damson

6 lb. damsons — 1 lb. sugar to 1 pt. juice
3 pt. water

Wash the fruit, cover with water and simmer until tender, then mash and strain through a scalded jelly-bag. Measure the extract and add 1 lb. sugar to 1 pt. of juice. Dissolve the sugar, then boil hard to setting point.

Elderberry & Apple

3 lb. elderberries — ¾ lb. sugar to 1 pt. juice
3 lb. sliced apples

Wash the fruit and cut up the apples, then cook the fruit separately, just covering each with water and simmering until tender. Strain in the usual way, and add ¾ lb. sugar to 1 pt. of mixed juice. Stir to dissolve, then boil quickly to setting point.

Gooseberry

4 lb. gooseberries — 1 lb. sugar to 1 pt. juice
2–3 pt. water

Wash the fruit, but do not top and tail, place in a pan just covered with water and simmer until soft. Mash well, strain through a scalded jelly-bag and measure the juice. Add 1 lb. sugar to 1 pt. of juice, stir to dissolve and boil briskly to setting point.

Grapes

2 lb. grapes — ¼ pt. water — 1 lb. sugar to 1 pt. juice

Stew the grapes slowly in the water until they are quite

tender and the juice is running freely. Strain them through a scalded jelly-bag and measure the juice. Add 1 lb. sugar to each pint of juice. Stir to dissolve and then boil rapidly to setting point. This makes a very delicately flavoured jelly. It is suitable only for those who grow their own grapes and can make use of the last and rather poorly shaped bunches.

Haw

Gather haws when fully ripe, wash them and cook unt : soft with just enough water to cover them. Mash and strain through a jelly-bag. Measure the extract and add 1 lb. sugar to 1 pt. of juice. Stir to dissolve and boil rapidly to setting point. This jelly is rather rough or tart to the taste.

Loganberry

8 lb. loganberries 1 lb. sugar to 1 pt. juice 2 pt. water

Wash the fruit and cover with water in a pan, stew gently until quite tender. Mash well then strain through a scalded jelly-bag. Measure the juice, bring to the boil and add 1 lb. sugar to 1 pt. of juice, stirring vigorously to dissolve the sugar. Bring to the boil again and boil fast until setting point.

Medlar

3 lb. medlars ¾ lb. sugar to each pint of juice

Wash the medlars and place in a pan just covered with water. Simmer slowly until the fruit is well broken down. Strain through a scalded jelly-bag and measure. Add ¾ lb. sugar to 1 pt. juice, dissolve and then boil fast until setting point is reached. Lemon peel may be boiled with the fruit to give added flavour. This jelly is very similar in taste to a guava jelly.

Mint

6 lb. apples 1 lb. sugar to 1 pt. juice
a bunch of fresh mint water sufficient to cover
a few drops of green colouring
juice of 4 lemons *or* 1 level tablespoon citric or tartaric acid

Bright green apples give the best colour to this jelly. Wash and cut up the fruit and simmer in enough water to cover, with a few sprigs of mint and the lemon juice or acid, until it is well broken down. Strain through a jelly-bag and then measure the extract. Add 1 lb. sugar to each pint of juice, heating the mixture and stirring to dissolve. After boiling rapidly for 5 minutes, the leaves of a well-washed bunch of young mint should be bruised and held in the boiling jelly for a few minutes, or some finely chopped mint added. If desired, a few drops of green colouring may also be added. Continue boiling until the mixture begins to set.

Mulberry

2 lb. apples, windfalls
2 lb. mulberries
1 lb. sugar to 1 pt. juice
water to cover

Cut away the damaged parts of the apples and put the apples with the mulberries into a pan with water just to cover. Stew until thoroughly softened. Strain through a jelly-bag and measure the juice. Add 1 lb. sugar to each pint of juice, stir to dissolve, then boil fast to setting point.

Quince

4 lb. quinces
6 pt. water
1 lb. sugar to 1 pt. juice

Remove only the bad portions of the quinces, then cut up the whole fruit into fairly small pieces, including peel and core. Cover with water and stew gently until the fruit will break up easily with a fork. Strain through a jelly-bag and measure. Add 1 lb. sugar to each pint of juice, stir until dissolved, then boil hard until setting point is reached.

Quince & Cranberry

2 lb. quinces
2 lb. cranberries
1 lb. sugar to 1 pt. juice
water to cover

Cut up the whole quinces as above and wash the cranberries

without removing the stems. Put all the fruit together in a pan with enough water to cover and stew gently until thoroughly softened. Strain through a jelly-bag and measure the juice. Add 1 lb. sugar to each pint of juice. Stir to dissolve, then boil rapidly until a set is obtained.

Rowan

2 lb. rowan berries
2 lb. crab apples
1 lb. sugar to 1 pt. juice
water to cover

Wash the fruit and put in a pan with just enough water to cover. Cook gently at simmering point until the fruit is soft and pulped. Strain through a jelly-bag and measure the combined juice. Add 1 lb. sugar to each pint of juice, stir to dissolve, then boil rapidly until a set is obtained. This makes a jelly of a lovely colour and a tart taste excellent for serving with meat and poultry.

Raspberry

8 lb. raspberries
1 lb. sugar to 1 pt. juice

Wash the fruit and put in a pan with enough water to cover, then cook gently until it is quite soft. Mash well and strain through a jelly-bag. Measure the juice, bring to the boil and add 1 lb. sugar to each pint of juice. Stir to dissolve, then boil rapidly to setting point.

FRUIT CHEESES AND BUTTERS

These preserves are an example of our English inheritance of good cookery. The fruit cheese is served at the end of a meal as a sweetmeat or, like the jelly, it is sometimes served with the meat or game dish. Both these preserves are examples of housewifely economy as they make use of a great deal of fruit to produce a compact preserve and are suitable as a means of using fruit during a glut. The fruit is sieved so that the preparation of the fruit is reduced to the minimum of washing and removing bad and damaged fruit.

The method of preserving is the same as for jam and the principles of making very similar to jelly.

Fruit. Choose well flavoured fruit. Traditional favourites are black-currants, damsons, medlars and quinces. If apples are used, they are used with other fruits or spices to give unusual flavouring.

METHOD OF MAKING

Prepare the fruit in the same way as for jelly.

Cook the fruit with enough water to cover the fruit, simmer until really soft and pulpy, use a spoon or vegetable presser to break down the fruit from time to time.

Sieve the fruit pulp, using a hair or nylon sieve and rubbing the fruit pulp through with a wooden spoon and removing from the underside with a silver or stainless metal or clean wooden spoon. See that the basin or bowl fits comfortably in or outside the sieve.

Measure pulp and for:

Fruit Butter allow $\frac{3}{4}$ lb. sugar to 1 pt. pulp.

Fruit Cheese allow 1 lb. sugar to 1 pt. pulp.

Sugar is weighed and added to the pulp in a clean pan and allowed to dissolve completely before boiling.

Boil gently until preserve is ready for potting, stirring all the time once the preserve begins to thicken, as it is very likely to stick to the bottom of the pan and burn.

Fruit Butter. The consistency is like thick cream with no free liquid on the surface or showing when stirred.

Fruit Cheese. The mixture should be cooked until it is so thick that when a spoon is drawn across the bottom of the pan it leaves a clean sharp line.

Pot in warm, clean, prepared jars.

Fruit Butters are best put into small preserving jars and covered at once with an airtight lid and finished by a final sterilization in boiling water for five minutes, as for fruit pulp.

Fruit Cheeses are put into straight-sided, shallow pots, which are treated with a thin coating of either pure olive oil or glycerine so that the preserve may be turned out for serving. Tongue jars or oven-glass soufflé dishes are excellent.

Cover fruit cheese with wax circles at once.

Tie down fruit cheese when cold in the same way as for jam or jelly.

Store in a cool, dry, dark place.

Fruit cheese matures and improves in flavour with keeping, so store for 3–4 months before using.

EQUIPMENT FOR MAKING FRUIT CHEESE AND BUTTER

Pans. A really strong saucepan or any type of thick preserving pan will serve well.

Spoons. Wooden spoon for stirring and flat-ended spoon for rubbing pulp through sieve, stainless spoons for removing pulp from sieve.

Sieve. This must be nylon or hair. Metal sieves are likely to give a metallic flavour as the result of the action of the acid fruit on the metal.

Basins and Bowls of a suitable size for the sieve.

Pots and Jars. Straight-sided, shallow jars or pots for the Cheese and small preserving jars for the Butter. Jam jars will serve if used with one of the suitable glass or metal-topped fittings sold for fruit bottling to give a vacuum seal.

Covers. Wax circles and covers with string and rubber band suitable for jam will be needed for the Cheese, but see "pots and jars" for information about jars and covers for Butters.

Miscellaneous Equipment, such as colander, scissors, knives, chopping board, muslin, tea towels, etc. also a measure and scales.

STANDARD METHOD OF MAKING FRUIT CHEESES AND BUTTERS

A few choice recipes are given in this book but others may be invented or adapted to suit the tastes of the maker and the family. The method of making is always the same and is only varied with the addition and removal of spices or flavouring.

Prepare the fruit by washing and removing bad and bruised pieces.

Cook over a low heat with water sufficient to cover the fruit.

Sieve using a hair or nylon sieve.

Measure pulp. Add sugar for:

Fruit Butter, ¾ lb. sugar to 1 pt. pulp.

Fruit Cheese, 1 lb. sugar to 1 pt. pulp.

Dissolve weighed sugar with the pulp in a clean pan over a low heat.

Boil gently until ready for potting, stirring well.

Fruit Butter is ready when consistency is like thick cream and is free of liquid.

Fruit Cheese is ready when a clean line is made through mixture when spoon is drawn across.

Pot at once.

Fruit Butter. Put into fruit bottling jars, seal and sterilize in boiling water 5 minutes.

Fruit Cheese. Put in straight-sided prepared pots and cover with wax circle and leave until cold.

Tie down fruit cheese with covers suitable for jam.

Label with type of fruit and date.

Store in dry, cool, dark place, 3–4 months before using.

RECIPES FOR FRUIT CHEESES AND BUTTERS

Apple Butter

6 lb. crab apple, windfalls 2 pt. water 2 pt. cider
1 teaspoon ground cloves ¾ lb. sugar to each 1 lb. pulp
1 teaspoon ground cinnamon

Prepare the fruit by washing and removing bruised parts, then cut up roughly into quarters. Cook the fruit slowly in the water and cider until it is well pulped, then mash it through a sieve. Weigh the pulp and return it to the pan, bring to the boil and keep simmering until it thickens. Add the sugar and spice and keep boiling, stirring constantly, until no free liquid remains. Put into hot jars and seal at once.

Cranberry Cheese

3 lb. cranberries
1½ pt. water
½ lb. sugar to each 1 lb. pulp

Wash the fruit and place in a pan with the water. Simmer until the fruit is thoroughly soft. Sieve and weigh the pulp. Return to the pan and add ½ lb. sugar for each 1 lb. pulp. Stir well until boiling, then continue stirring while pulp simmers until the cheese is really stiff. Pot in small, straight-sided jars, so that it can be turned out easily. Most appetizing with game or pork.

Damson Cheese

3 lb. damsons
¼ pt. water
¾ lb. sugar to each 1 lb. pulp

Place the prepared damsons in a pan with a little water. Cook slowly with the lid on until the fruit is well pulped. Sieve and weigh the pulp, which should be about 2½ lb. Bring to the boil again and simmer until the cheese is thick. Add the sugar and stir it in while still cooking. Continue until a spoon drawn across the bottom of the pan leaves a clean line.

Plum & Apple Cheese

1½ lb. apples, windfalls
1½ lb. plums
¾ lb. sugar to each 1 lb. pulp after preparation

Prepare both fruits in the usual way and then weigh to get equal weight. Cook the apples first in a little water until quite pulped down, then add the plums and cook until they are soft.

Sieve and weigh the combined pulp. Bring to the boil again and add ¾ lb. sugar to each 1 lb. of pulp and continue at simmering point, stirring all the time, until the cheese is formed and a spoon leaves a clean line across the bottom of the pan.

Quince Cheese

3 lb. quinces
1 orange
1 lb. sugar to each 1 lb. pulp

Put chopped quinces, including peel and cores, into a pan with just enough water to cover them. Cook slowly until soft. Rub through a sieve, weigh and re-boil. Add 1 lb. sugar to each 1 lb. pulp and continue cooking and stirring. It is important to stir gently all the time, otherwise the cheese may develop air bubbles. Cook until the cheese has thickened, so that a spoon leaves a clear line.

Sloe & Apple Cheese

1½ lb. apples, windfalls
1½ lb. sloes
1 lb. sugar to each pint of pulp

Stew equal quantities of sloes and apples until thoroughly softened in just enough water to cover them. Sieve, measure and return pulp to the pan to re-boil. Add 1 lb. sugar to each pint of pulp, stir constantly while continuing cooking until the cheese has formed.

FRUIT SYRUPS

Fruit syrups have regained their popularity. Those of us who brought up children during the war were made very conscious of the value of Black-currant and Rose Hip syrup as an important item in the diet of babies and growing children, and we ourselves willingly helped finish any puddings left over which were smothered in these delicious confections. Their only rival was the concentrated orange juice which made wartime children such an asset at cocktail parties.

Fruit syrups were a feature of Mrs. Beeton's early cookery books. They were used to flavour cornflour moulds, and as sauces over many nursery puddings. Fruit syrups reached the dining-room table as a dressing for Dame Nellie Melba's favourite ice-cream, as sauces for more elaborate dishes, and as the foundation for that Edwardian delight, the iced Sorbet. This last delicacy is made by freezing the syrup to which has been added stiffly beaten whites of egg.

Fruit syrups are of value to us because they are usually a good source of Vitamin C, particularly if made from black-currants or rose hips. Apart from their food value, syrups have a claim to a place on the store-shelf because, as Mrs. Beeton found, they dress up plain dishes and add to the more elaborate sweets. They also make a most refreshing drink when diluted with 4–5 parts of water.

It is a real economy to make fruit syrups, particularly when there is a good crop of one or more of the soft fruits. The price of the finished result compares favourably with the commercially produced product. This is obviously true when using home-grown fruit, but it is equally true when the fruit is bought in quantity at glut market prices.

PRESERVING OF FRUIT SYRUPS

The method of preserving used in making syrups is heat. The syrup is sterilized in the "water bath" method after bottling and sealing. Sugar is also a preservative, but the quantity of added sugar is not quite sufficient to keep the syrup without further sterilization.

INGREDIENTS FOR FRUIT SYRUPS

Fruits most suitable for fruit syrups are blackberries, black-currants, loganberries, raspberries, strawberries, red-currants, rose hips, elderberries and damsons. The fruit must be fully ripe, so that the juice will flow well and the flavour will be well

developed. Fruit that is too ripe for bottling or jam will be suitable for fruit syrup. Under-ripe fruit is too acid for making syrups.

Sugar. The quantity of sugar is less than for jelly making and jam, ¾ lb. sugar to 1 pt. juice. Granulated sugar is used and sugar *must* be dissolved in the juice. Stir well while the sugar is dissolving over a low heat.

METHOD OF MAKING FRUIT SYRUPS

This method is suitable for all fruits, except rose hip—see separate recipe. For home use fruit syrups are prepared by heating the fruit to extract the juice. There are ways of doing this which will be explained.

Prepare the fruit by picking over and removing bad fruit. If the fruit is dusty or dirty wash gently in a colander using cold water. Otherwise use without washing.

Extract the juice by heating. There are two methods.

Method A. Place the prepared fruit in an earthenware crock or basin, add water if necessary.

Place the crock or basin over a pan of simmering water.

Occasionally press the fruit with a wooden spoon or wooden potato-masher or pulper against the bottom and sides of the crock.

Heat gently until juice begins to flow freely, about 1 hour for 4–6 lb. fruit.

Crush the fruit again using a wooden spoon or pulper.

Method B. Place the prepared fruit and water in a large saucepan. Break the fruit with a wooden spoon or wooden potato-masher or pulper.

Bring the fruit quickly to the boil, stirring and mashing constantly.

Boil one minute, not longer.

Crush the fruit again.

MAKING SYRUP

The juice is ready for pressing. Drain through a jelly-bag or suitable cloth as when making jelly. Drip for one hour then wring the cloth with the fruit pulp in it to extract the remaining juice. The fruit pulp may be pressed on a hair or nylon sieve instead of being wrung in the cloth.

Pour the strained and measured juice into a pan and add the weighed sugar, ¾ lb. sugar to one pint of juice.

Heat the juice slowly stirring all the time until the sugar is dissolved. *Do not boil.*

Strain the hot syrup through a fine muslin or cheesecloth to remove any fruit fibres. Strain into a jug or through a funnel into the bottles.

Pour from the jug into the warm clean bottles and fill to within 2 inches of the top.

Cork the bottles. Screw down metal or plastic tops at once, or tie down the corks with string. (See diagram and see note on "corks" on page 83.)

Sterilize the bottles in a pan of water. The pan should have a wooden rack or false bottom and be deep enough to allow the bottles to stand upright with the water up to the level of the bottom of the corks. A bucket or tin bath does well for this.

Heat the water to either:

170 deg.F. and maintain at that temperature for 30 minutes *or* simmering point and maintain at that temperature for 20 minutes.

Remove bottles and stand on a wooden board or table out of a draught. Screw down caps and press in corks (see notes).

When cold dip top of the bottle in melted paraffin wax to seal corks or paint wax over cork with brush.

Label with the type of syrup and date and method of juice extraction if wanted for future reference.

Store in a cool, dry, dark place.

BOTTLES AND COVERS FOR FRUIT SYRUP

This is important enough to warrant a special paragraph on its own.

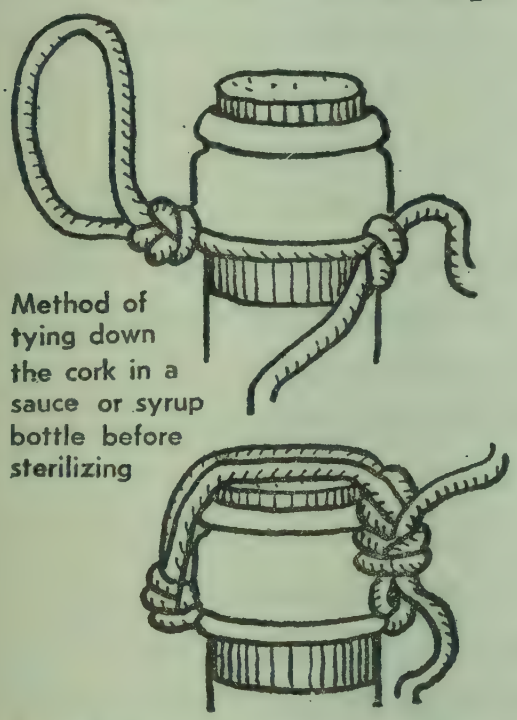
Bottles should be of a type that will stand up to heat and the moderate pressure built up during sterilizing. Small bottles are more economical and save wastage, as syrups lose the vitamin content rapidly after opening.

Covers

Screw-tops with rubber washers such as are used for beer or lemonade bottles are suitable.

Plastic covers or metal covers to screw down over corks are suitable such as are found on sauce or mayonnaise bottles.

Corks in ordinary bottles without screw-tops must be wired down or tied down with a piece of strong string. (See diagram).



Method of tying down the cork in a sauce or syrup bottle before sterilizing

Pre-treatment of corks and screw-stoppers and metal and plastic covers. Put into boiling water and keep under boiling water for $\frac{1}{4}$ hour before use. Cover corks with a saucer or plate otherwise they will float. *After treatment of corks.* When corks alone are used, after sterilization press down well into the bottles. When cool dip the corks in melted paraffin wax to make them airtight.

Other utensils are the same as for making fruit jelly.

One of the main reasons for making fruit syrup is to make a syrup rich in Vitamin C. This vitamin is destroyed more easily in the presence of copper and brass, so avoid the use of these metals for any utensils used in the preparation of fruit syrup.

Recipe for Fruit Syrup

1 pint of extracted fruit juice to ¾ lb. granulated sugar.

Fruits most suitable are: black and red-currants, raspberries, loganberries, blackberries, elderberries and damsons.

Recipe for Rose Hip Syrup with High Vitamin C content

2 lb. ripe rose hips freshly gathered

1 lb. granulated sugar

4½ pt. water

Heat 3 pt. of water to boiling point in an aluminium or unchipped enamel pan.

Mince coarsely the rose hips.

Put *immediately* into *boiling* water and *reboil.*

Remove from the heat and leave for 15 minutes.

Pour the juice through a scalded jelly-bag and leave until most of the juice is extracted. (About 10 minutes).

Return the fruit pulp to the pan and add the remaining 1½ pt. of *boiling* water.

Stand without further heating for 10 minutes.

Drain through the jelly bag for a further 10--15 minutes.

Pour the mixed juice into aluminium or undamaged enamel pan and boil rapidly until juice is reduced to about 1½ pt.

Measure and to 1½ pt. juice add 1 lb. sugar.

Dissolve sugar completely stirring all the time.

Bring to the boil and boil 5 minutes.

Bottle and cover as for other syrups.

Sterilize as for other syrups for 5 minutes *only.*

Finish in the same way as other syrups.

Label and store in dry, cool, dark place.

Sweetened Fruit Juices. These are useful as a pleasant basis for a cool drink and mix well with soda water and/or milk.

The fruit juice is extracted and prepared in the same way as when making fruit syrup, and it is bottled and sterilized in the same way. The difference is in the quantity of sugar used.

Recipe 1 pt. of extracted fruit juice 3 oz. granulated sugar

MARMALADES FROM CITRUS FRUITS

Marmalade is perhaps the most popular preserve used in this country. It is one of the most rewarding preserves to make particularly for the urban housewife who for once is not at a disadvantage compared with her country cousin, since both have to buy citrus fruits, as they are imported. It is as well to remember that Seville oranges make their appearance in the shops immediately after Christmas and some extra housekeeping money must be saved from the wreck of Christmas extravagance if sufficient marmalade is going to be made to serve the family breakfast for a whole year.

PRINCIPLES OF MAKING MARMALADE

The principles and method of making marmalades are again the same as for jam, except that the peel takes longer to cook than most fruits. There are three things that must be present in correct proportions: pectin in pith and pips, acid, sugar.

Pectin in citrus fruits is more constant in quantity than in soft, stone or hard fruits, consequently there is not the same necessity to make a pectin test when making these preserves. Just follow the chosen recipe.

Acid is present in good quantities in citrus fruit, but when making marmalade a lot of water and sugar are used in proportion to actual fruit, consequently the total amount of acid present in the fruit may not be sufficient to ensure a good gel. That is why lemon juice, citric or tartaric acid is sometimes given in the recipes.

Sugar. The quantity of added sugar present in the finished marmalade must be 60% to ensure good keeping. It is very important to see that the cooking of the fruit is complete, i.e. the peel is soft enough to fall to pieces when squeezed between the fingers before the sugar is added. Sugar will toughen the peel and spoil the marmalade unless this is done.

Some of the sugar may be added in the form of black treacle to give a dark strong-flavoured preserve, or a proportion of the sugar turned into dark caramel for the same reason.

METHOD OF MAKING MARMALADE

Wash the fruit in cold water, if necessary scrub with a clean nail-brush and rinse well.

Cutting up the fruit is important, and the size of the peel pieces depends on the type of marmalade being made and the taste of the family. Some people like to mince the peel. The fruit may be cut up before or after cooking.

Before cooking: one method

Scrub the fruit and put into boiling water for 2 minutes to aid peeling.

Peel fruit and remove pith if desired or if recipe says so.

Cut rinds into suitable sized shreds.

Remove pips and cut up fruit pulp coarsely.

Before cooking: another method

Wash the fruit, and scrub it.

Cut in halves.

Squeeze out the juice and pips.

Slice the peel and fruit pulp together.

After cooking

Wash and scrub the fruit.

Cook with the water in a covered pan until fruit is tender, about 2 hours in an ordinary pan, about 20 minutes after reaching 15 lb. pressure in a pressure pan.

Cut up the cooked whole fruit using a knife and fork and separate the pips from the skin and pulp.

Soaking the fruit is no longer considered necessary but it helps in the softening of the fruit peel and may be done where time and space make it convenient.

Cooking the fruit. The peel, pulp, juice and pips in a muslin bag are cooked in sufficient water to allow the peel to

become really tender. The quantity of water used for marmalade, about 2 pt. to 1 lb. fruit, is very great compared to the amount used for jam-making, because the required time for cooking the fruit is longer and consequently there is more evaporation. If fruit is cooked whole the cutting up is completed after the first cooking. The time taken is 2–3 hours, except when using pressure pan when time is 20 minutes after reaching 15 lb. pressure.

Acid. Is added during the first cooking process, whether this is done before or after cutting up the fruit, in order to assist the release of the pectin.

Sugar. Is added and allowed to dissolve completely before boiling. Remove the bag of pips before adding sugar.

Boil. Rapidly until setting point is reached.

Testing for set. Any of the methods given for testing for set for jam may be used. The flake test is satisfactory.

Skimming. Remove scum as soon as marmalade is ready, using a metal spoon dipped in boiling water. Take care not to remove too much peel.

Potting. Marmalade should be allowed to cool until it shows signs of holding the peel in suspension. Stir well then pour into warm, clean pots right to the top of jar.

Cover. With waxed circles to fit jars. Wipe round top and sides of jar.

Tie down. When cold with covers suitable for jam.

Label. With type of fruit and date.

Store. In cool, dry, dark place.

PRESSURE PANS FOR MAKING MARMALADES

These are very useful in speeding up the process of making marmalades and are used for the first cooking process whether the fruit is cooked whole or not. Because of the speed of cooking and lack of evaporation of the liquid, only *half* the usual quantity of water is needed and consequently when

making marmalade, and using a pressure pan, *always halve* the quantity of *water* given in the *recipe*.

Put the water and whole fruit and acid in the pan, or cut-up fruit, pulp, juice, pips in a muslin bag, any acid and half the water in the pan without the rack. Cover with the lid keeping vent open. Heat until steam is coming from the vent hole. Close the vent or put on weights and bring to 15 lb. pressure, keep at 15 lb. pressure for 20 minutes. Cool for 10 minutes before opening. Continue making marmalade in the ordinary way, cooking the preserve in the pan without the lid.

EQUIPMENT FOR MARMALADE-MAKING

The equipment for making marmalade is the same as for making jam. In addition you may need:

Pressure pans for cooking the peel or fruit. See that the pan conforms to British Standard requirements for safety. All pans made to this specification bear a label to that effect.

Mincer for mincing fruit peel.

Measure for measuring fruit pulp or juice.

Jelly-bag for straining fruit pulp for making jelly-marmalades.

Marmalade cutter. This is a useful piece of equipment for a large family or as a piece of "community" or "neighbourhood" equipment.

MARMALADE RECIPES

Marmalade is made from all citrus fruits, that is: sweet orange, Seville orange, lemon, lime, grapefruit. Occasionally apples are used with these fruits. The marmalade may be thick, clear or jelly. The peel in the marmalade may be "chunky", minced, shredded or chopped. The marmalade may be made of only one fruit, or a combination of two, three, or all the fruits.

Once again the recipes given are a selection from the vast

numbers that are established favourites. Before starting to make marmalade here is a reminder of the important steps in making the preserve.

Steps in Marmalade-making

Wash fruit, scrub if necessary.

Prepare the fruit.

Cook until peel is tender either before or after cutting up. *Add acid during first cooking process.*

Cut up peel and fruit pulp if this has not been done.

Add the measured sugar. Dissolve completely, stirring all the time.

Bring to the boil and boil rapidly.

Test for setting point.

When ready: remove from heat, remove scum, leave until skin is beginning to form.

Stir well and pour into warm, dry, clean jars.

Cover immediately with waxed paper circles.

Cover when very hot with outer cover, *or* leave until cold and then cover and label.

Store in a cool, dry place.

If using a pressure pan use only half the quantity of water given in any of the recipes.

MARMALADE RECIPES

(*Alternative methods p.* 86)

Seville Orange *Yield 5 lb.*

1½ lb. Seville oranges
3 pt. water
3 lb. sugar
½ teaspoon citric or tartaric acid or juice of 1 lemon.

Seville Orange and Lemon *Yield 5 lb.*

1 lb. Seville oranges
1 sweet orange
½ lemon
3 lb. sugar
3 pt. water

Dark Thick Marmalade *Yield 5 lb.*

1 lb. Seville oranges
½ lemon
3½ pt. water
3 lb. sugar
1 oz. dark treacle added with sugar

Grapefruit *Yield 5 lb.*

1¼ lb. grapefruit
¼ lb. lemon
3 lb. sugar
3 pt. water

Lemon *Yield 5 lb.*

1½ lb. lemons
3 lb. sugar
3 pt. water

Lime *Yield 3 lb.*

8 limes 1 lb. sugar 2 pt. water

Peel the limes very thinly and slice the peel neatly as for jelly-marmalade. Squeeze out the juice, throw away the pips and chop up the rest of the pith. Put this pulp and pith into a muslin bag. Put the fine peel, the juice, and the bag of pulp, into a pan with the water and boil slowly until the peel chips are quite soft. Take out the bag, pressing it well to get out all the liquid. Add the sugar, stir gently until boiling, then boil briskly until a set is obtained. Pot in half pound jars.

Three Fruit Marmalade *Yield 5 lb.*

1 grapefruit
2 lemons
12 sweet oranges
(total weight of fruit about 1½ lb.)
3 lb. sugar
3 pt. water

Four Fruit Marmalade *Yield 5 lb.*

1 large apple
1 sweet orange
1 lemon
½ grapefruit
3 lb. sugar
1 pt. water
(total weight of fruit about 1½ lb.)

For these last two recipes, proceed as for Seville orange

marmalade. They are useful to make before the Seville oranges arrive and when last season's marmalade has run out. They also make a pleasant jelly marmalade, adapted to the recipe below.

Orange Jelly Marmalade *Yield 5 lb.*

2 lb. Seville oranges
$4\frac{1}{2}$ pt. water
1 teaspoon citric or tartaric acid or juice of 2 lemons
3 lb. sugar

Prepare the fruit by scalding, removing pith from rinds and shredding the rinds finely. Chop up the rest of the fruit roughly and cook slowly in $2\frac{1}{2}$ pt. water for about 2 hours in a closed pan with the acid added. Cook the shredded rind separately in a pint of water until tender, about $1\frac{1}{2}$ hours. Drain off the liquid from the shreds and add it to the pulp. Strain through a jelly-bag for about 1 hour. Return the juice to a pan, bring to the boil and add the sugar, stirring to dissolve. Add the shreds and boil rapidly until a set is obtained. Skim and complete as in instructions.

Tangerine Jelly *Yield 5 lb.*

Tangerines
1 grapefruit
1 lemon
(total weight of fruit about $2\frac{3}{4}$ lb.)
3 lb. sugar
5 pt. water
$\frac{1}{4}$ oz. tartaric acid

Tangerines are not suitable for making marmalade unless combined with other citrus fruits. However, they make a very pleasant jelly-marmalade if only the shreds of tangerine rind are added to the juice of the other fruits. Make as for orange jelly marmalade.

SECTION 4

FREEZING

THERE is nothing new in preserving food by keeping it cold. It has been practised for centuries by peoples living in cold climates. Since the development of commercial ice-making, and more recently of refrigeration, it has become one of the most acceptable methods of preserving food in the state nearest to its natural condition. Experiments in the freezing of food are continuing all the time with some remarkable results. We have become familiar with the packets of frozen vegetables and fruit, and accept quite readily frozen cooked food as a means of supplementing the family diet.

Now, it is possible to preserve foods at home using special refrigerated cabinets, so that with an eye on the future it is as well to find out something of the principles and proper practice of preserving by freezing.

The principle of preserving is to reduce the temperature of the food *quickly* and to a *sufficiently low temperature* to inhibit the growth of micro-organisms. Modern methods of freezing insist on speed in the initial temperature reduction,

because this prevents the development of large ice-crystals which break up the tissues of the food and make it less palatable and attractive.

There are two main methods of freezing used today.

Quick Freezing. This is a commercial process in which the food is placed in a temperature below —20 deg.F. (minus 20 deg.F.) and freezing is completed in 30 minutes. The freezing is assisted by using blasts of cold air to reduce the moisture. The frozen food is stored at 0 deg.F. (nought deg.F.). This method is not possible for home use as it involves specially built freezing cabinets of enormous size.

Deep Freezing. This method is possible for domestic use as there are a few special "deep freeze" refrigerators being made. The food is placed in the cabinet at between —18 deg.F. and 0 deg.F. (between minus 18 deg.F. and zero deg.F.). The food freezes in 6–7 hours, but it takes about 24 hours for the temperature to be reduced to zero deg.F.

Storage of deep-frozen foods must be at a temperature of between zero deg.F. and 5 deg.F. In practice at home they must always be kept in the deep-freeze cabinet. Any higher temperature causes ice crystals to grow in size, spoiling the texture of the food and causing "drip" on thawing.

From the brief description of freezing methods given above it will be realized that it is not possible either to freeze or store deep-frozen foods in a normal domestic refrigerator, because in the standard models the shelf temperature seldom drops below 40 deg.F. or the ice compartment below 20 deg.F.

DEEP-FREEZE CABINETS

The present selection on the market in Britain is limited, but care should be taken to choose one which will suit the habits of preserving food of the family, always bearing in mind the type and quantity of food to be stored.

A good deep-freeze cabinet should be:

Well insulated to prevent loss of cold and to maintain a low temperature for at least 24 hours in case of a failure of the machine or the power supply.

Easy to pack for deep-freezing.

Reasonably accessible for stored frozen-foods.

Capable of maintaining a temperature of —18 deg.F. in the freezing compartment and zero deg.F. in the storage space.

Some cabinets are designed with a single compartment for both the initial freezing and the storing. Others have two compartments, one for freezing and a much larger one for storing the frozen food. Obviously, the two-compartment model is more satisfactory, but providing care is taken not to put too much fresh food to be frozen at one time the single compartment model serves well for a small family.

It is very important to be guided by the manufacturer's instructions about the use of the deep-freeze cabinet, particularly about the placing, packing and storing of the packets of fresh and frozen foods.

As a guide to capacity:

1 cubic foot of storage space = (equals) 25 lb. well packed prepared food, e.g. fruit, vegetables.

Not more than one-tenth of the total capacity of the freezer should be taken up with fresh food to be frozen. For instance, if the capacity of the freezer is 4 cubic feet it will hold 100 lb. of food, therefore no more than 10 lb. of fresh food should be put in at a time, otherwise the temperature rise will be too great and will slow down the freezing operation.

CONTAINERS FOR FROZEN-FOODS

Containers or wrappers which are suitable for home frozen-foods should have the following characteristics:

Moisture-proof. No liquid must escape from the food during the freezing, otherwise the food will dry out and the freezer become dirty.

Vapour-proof to prevent contamination by cross flavours from other foods.

Capable of standing up to low temperatures without becoming brittle.

There are two main types of wrapping suitable for the deep-freezing of foods:

Waxed-cardboard Containers with tight-fitting lids or tops. These are more economical of space if square or oblong in shape, but are more expensive to buy than waxed tubs. With care these containers can be used more than once, by washing them in warm water, drying well and storing in a clean place.

Plastic Film Sheets or Bags. These are sold under various trade names and vary in strength and suitability. Some of these plastic sheets may be heat-sealed by using a cool iron. A "run and fell" seam is the best. Other bags have patent sealing devices or may be twisted, turned over, and finished with a rubber band. The object of any finished container is to create a liquid and air-tight bag.

Very thin bags or sheets should be protected by an outer covering of waxed-paper or cardboard, which may be removed after freezing. That is to say, put the plastic bags of food inside a waxed-cardboard box during the preliminary freezing; when frozen, remove from the box and store in the storage compartment. The box may be used again.

Cardboard-containers are usually used for foods which are to have liquid frozen around them, while the plastic film-wrappers or bags are satisfactory for dry foods. Containers such as glass jars or waxed-paper bags are not suitable, as they are not strong enough to stand the low temperatures.

FOODS FOR FREEZING

All foods which are to be preserved by deep-freezing *must be of prime quality.*

The foods which are suggested below are known to be successful, but there is no harm in experimenting, always remembering that:

Foods which are readily available most of the year round are obviously not worth freezing.

Fruit which has to be cooked after de-frosting will break down very quickly and become mushy.

Fruits which discolour easily in the air, such as pears, or greengages, are difficult to freeze in perfect condition.

Leafy salad vegetables which are eaten raw are unsatisfactory when frozen.

Vegetables which store well without elaborate preserving methods are a waste of space in a freezing-cabinet.

Choice and preparation. Choose fresh, ripe, well-flavoured fruit. Most fruit is improved if frozen with sugar, either as dry sugar, castor or granulated, or sugar syrup.

Sugar Syrup. The strength of the syrup will vary according to the type of fruit. The guiding rule is that soft fruits require a stronger syrup than stone or hard fruits.

The recipe for syrup is: ½–1 lb. sugar to 1 pt. water. Dissolve the sugar completely in the water, bring to the boil, strain through muslin, cover and allow to cool thoroughly before using.

Proportion of syrup to fruit

1 lb. prepared fruit — ½ pt. cold syrup

Dry Sugar. Sprinkle the sugar on the fruit. Stir well to ensure that the fruit is well coated with the sugar.

Proportion 1 lb. prepared fruit — 5–6 oz. dry sugar

PREPARATION OF INDIVIDUAL FRUITS

Apples. (Cookers.) Peel, core and slice. Scald in boiling water to retain colour. Cool and then pack with dry sugar or liquid syrup.

Blackberries. Remove stalk, rinse if necessary, pack in dry sugar or heavy syrup.

Cherries. Dark varieties only—stalk, rinse and pack with sugar syrup.

Raspberries. Remove stalks, pack with dry sugar or heavy syrup.

Strawberries. Hull, rinse if necessary, drain well. Leave whole or slice and pack with dry sugar or heavy syrup.

Fruit Purée. These may be made from any of the berry fruit included above. Rub the fruit through a hair or nylon sieve, add one part sugar to three parts *purée*. Pack in bags or waxed-cartons.

PACKING OF FRUIT

Cardboard Containers. Prepare and weigh fruit, put into containers and cover with cold syrup. See that syrup covers the fruit. If the fruit floats, hold the fruit under the syrup by using a crumbled piece of non-absorbent paper on the top of the fruit before sealing with outer cover.

Sugar coated fruit should be packed neatly into the containers and the covers sealed. Care must be taken not to wet the edges which are to be sealed.

Plastic Film Bags. Use a wide-mouthed funnel for filling the bags to avoid wetting the sealing edges.

N.B. For fruit packed in syrup allow $\frac{1}{2}$ in. headspace. For fruit packed in dry sugar allow 1 in. – $1\frac{1}{2}$ in. headspace. This applies whether using a carton or a bag.

VEGETABLES FOR FREEZING

Choosing vegetables for freezing is very much a matter of individual taste and of what the garden or market is producing which looks worth while. Some guiding points about choice of vegetables was given earlier in this section. The main point is that for those with a small storage space in their deep-freeze

it is as well not to choose vegetables which have a fairly long season. Choose vegetables which come and go and leave behind a pleasant sense of longing for the next season. Needless to say, the vegetables should be young, fresh and in prime condition.

GENERAL PREPARATION OF UNCOOKED VEGETABLES

All vegetables which are frozen are cooked before being eaten at the table, but they are usually frozen while still raw. All vegetables must be scalded in *boiling* water before being frozen, for two main reasons:

To set and keep a good colour.

To kill certain enzymes which cause "off" flavours.

See chart for details of times of scalding.

After scalding, the vegetables must be cooled as quickly as possible in *ice-cold* water to prevent over-cooking.

Method of Scalding. This is exactly the same method as is used for the preparation of vegetables for canning. (See page 137). The additional precaution is to be specially careful that the water for scalding does not go off the boil. So, do only a few vegetables at a time.

Allow 3 quarts of boiling water to 1 lb. vegetables. That means that the water will return to the boil in 1 minute. The same water may be used for successive pounds of vegetables.

Use string bags or muslin or wire-baskets for holding the vegetables while they are immersed in the boiling water. It is then simple to lift them out and plunge them into ice cold water. The cooling time is usually the same as the scalding time.

Packing for Freezing of Vegetables. After scalding and cooling; drain the vegetables well. Then, pack them into bags or containers and seal according to the type of container being used. Allow a space of half-an-inch or so at the top of the container when packing peas, because they make a very dense pack. All other vegetables may be packed to the top.

PREPARATION, SCALDING AND COOLING TIMES FOR VEGETABLES

Vegetable	*Preparation*	*Scald in Boiling water*	*Cool in Icy water*
Asparagus	Prepare as for table and grade into thick and thin stems. Trim to even lengths.	thick 4 min. thin 2 min.	4 min. 2 min.
Beans Broad	Pod	3 min.	3 min.
Beans French	Wash and cut off stems. Break into even pieces or leave whole	2–3 min.	2–3 min.
Scarlet Runners	Wash, cut off stems, string and slice	2–3 min.	2–3 min.
Broccoli (white)	Wash and break into florets 2 in.–3 in. across	3 min.	3 min.
Broccoli (purple sprout)	Wash, cut up into even lengths about 4 in.	4 min.	4 min.
Corn on Cob	Remove husk and silk, trim and wash	4–6 min.	4–6 min.
	N.B. Wrap and seal each cob separately for freezing		
Corn off Cob	Remove husk and silk. Remove grain from cob after scalding using a sharp knife	4–6 min.	4–6 min.
Peas	Pod or shell	1–2 min.	1–2 min.

FREEZING AND STORING

The various fruits and vegetables being now ready and packed must be put into the deep-freeze cabinet. Before doing so it is as well to identify them in some way, so that they will be recognizable for what they are some weeks or months later.

Labelling. This is not such a simple matter as it sounds. The best way is to use:

Grease or ordinary pencil for writing on a carton or packet.

Sealing-tape of various colours to identify different foods.

Coloured string serves the same purpose.

Small tie-on labels.

Where possible give the following information:

Date of freezing. This is important to all for rotation.

Type and variety of food. This makes for better selection next time.

Any other relevant information which may help next time.

Freezing must be done as soon after preparation, packing and sealing as possible.

Put the food to be frozen in the *coldest* part or compartment of the freezer and stack it so that the packets are touching the metal plates. Stacking in piles only means that the food will take longer to freeze and will not be so satisfactory.

Follow maker's instructions about the amount of food to be frozen at any one time. Do not overload the freezer.

Allow at least 6–7 hours for freezing before moving to storage in single compartment freezers.

Allow 24 hours before moving food from freezing compartment in double compartment freezers.

Storage. After freezing, the frozen food is moved to the storage section or compartment. Care should be taken to stack the food in such a way in the storage compartment that the different foods get used in turn. Use net bags or cardboard boxes for the different varieties to allow easy selection.

Using Frozen Foods and Vegetables. Frozen dessert fruits. Allow to thaw 4 hours at room temperature or in domestic refrigerator for 8–12 hours. Rapid thawing causes the fruit to collapse. Serve slightly chilled.

Fruits for cooking should be placed in a pan and allowed to heat gently, breaking up the block with a fork or skewer.

Fruits for pies should be allowed to thaw first before being covered with pastry.

Corn on the Cob. Leave in its package and allow to thaw 3–4 hours before cooking.

All other vegetables are best cooked while still frozen. Allow $\frac{1}{2}$ pt. salted, boiling water to $\frac{1}{2}$ lb. frozen vegetable.

Frozen vegetables usually cook in half the time required for fresh vegetables.

Freezing—Step by Step. Prepare cabinet and see that freezing compartment is empty and ready at —10 deg.F. to zero deg.F.

Prepare containers, packets and sealing devices.

Prepare syrup, scalding water and ice cold water.

Prepare food.

Pack and seal carefully.

Label.

Put to freeze as close as possible to metal freezing plate.

Remove after required freezing time.

Store in storage section or compartment.

FREEZING OTHER FOOD

Fruit and vegetables may be the most popular foods to freeze, but they are by no means the only ones which freeze really satisfactorily. Cooked frozen-food is the most remarkable example of modern husbandry, and it is used extensively in many of our large popular and exclusive restaurants.

Cooked Foods suitable for Freezing. *Pastry.* Pies, pasties, tarts, *vol-au-vents*, flans, all seem to freeze well, with and without fillings. The pastry may be short or puff, according to taste of type of dish.

Stews. In all forms these appear to be satisfactory.

Cakes. Frozen and then thawed cake seems to be remarkably fresh and even moister than before freezing.

Puddings. Milk, cream, jelly or steamed puddings all appear to come out of the freezer without having suffered.

The selection is legion, and as knowledge of this subject is still limited it is as well to experiment and to keep a note of success or failures.

N.B. The notes for packing and sealing are the same for cooked foods as for fresh food.

Poultry and Game. These foods freeze most successfully. Choose only prime, young birds or other game meat, clean and

prepare as for the table. Separate giblets, etc., and seal them separately. Wrap in plastic film, sealing well, and freeze in the same way as other foods.

Important Note for All Types of Frozen Foods. Always use frozen food as quickly as possible after taking it out of the freezer.

Never attempt to re-freeze after thawing.

SECTION 5

PICKLES AND VINEGARS

PICKLING of fruit and vegetables is a very old method of preserving these foods. It makes use of chemicals, that is vinegar and salt, as the means of preserving.

Salt draws some of the water from the vegetables, so that the vinegar may penetrate them more easily. It also serves to keep the vegetables crisp. When pickles are being made in factories, the vegetables are left to soak in brine for some months, the process being known as "curing" and it lasts for between six and twelve months. Due to the long immersion in brine the characteristics of the vegetables are changed. Certain bacteria cause fermentation and this affects the carbohydrates in the vegetables, the flesh becomes transparent and darker in colour and the tissues become tougher. Home-made pickles do not usually undergo this curing process due to lack of storage space. It is a recommended practice, but not essential to treat vegetables in this way to get a satisfactory pickle.

Vinegar is the important ingredient in pickle-making. It must be a brewed or distilled vinegar of not less than 5% acetic acid content.

Pickles may be divided into three classes:

Clear Pickles. Where the flavoured or spiced vinegar is poured on to the prepared and brined vegetables.

Piccalilli or Mustard Pickle. Where the vinegar is thickened with flour and flavoured, and coloured with turmeric and mustard. The flavour is varied by the use of different vegetables and varying proportions of spices.

Sweet Pickles. Are made from fruit and certain vegetables and the vinegar is sweetened with sugar. The result is usually not as clear as an unsweetened pickle, but it is very delicious and, depending on the variety of the fruit chosen, worthy of a cold table ranging from spiced beef to boned and truffle-stuffed chicken.

INGREDIENTS FOR MAKING PICKLES

Vegetables. These should be young; fresh, firm and in good condition. The most usual vegetables used for pickling are: Onions, shallots, cucumbers, gherkins, cauliflower, marrow, French beans, red cabbage, mushrooms, green tomatoes and beetroot.

Prepare the vegetables as for cooking, by washing, removing coarse leaves etc., and then as follows:

Cauliflower	Break up into flower-ettes.
Gherkins and Cucumber	Leave whole if small, or cut in slices or dice.
French beans	Cut into pieces or dice.
Marrow	Peel and cut into small pieces or dice.
Mushrooms	Wash and stalk or trim stalks.
Onions	Choose small, light-skinned onions. Do *not* skin, just remove root-end and trim.
Shallots	Treat as for onions.

Tomatoes, (green)	Choose small ones and skin by placing in boiling salted water and boiling for 10 min. Cut into pieces if desired.
Beetroot	After cooking, peel and cut into thick rings or dice.
Red cabbage	Remove tough and discoloured outer leaves. Cut in quarters, remove any hard stalk and shred into pieces $\frac{1}{8}$–$\frac{1}{4}$ in. thick.
Fruits	
Walnuts	Use before shells have formed. Prick with a needle or fork to allow pickle to penetrate.
Peaches	Use mis-shapen or slightly bruised fruit of yellow or white flesh. Skin by dipping in boiling water. Cut into neat pieces, removing all bruised parts.
Apples and Crab apples	Pricked and left whole, or cut into neat pieces or halves or quarters.
Pears	Peel, core and cut into suitable-sized pieces. Choose hard, cooking pears.
Damsons	Stalk and wash.
Plums and Apricots	Remove stones and stalks. Cut in slices.
Gooseberries, (green)	Snip off each end.
Nasturtiums Seeds	Remove long stalk. These make a substitute for capers.

Salt. This must be "kitchen" or block salt and not the free-running table salt.

Brine recipe:

1 lb. kitchen salt 1 gallon water
(enough for 6–8 lb. vegetables)

Dissolve the salt in the water.

All vegetables which are to be pickled are first brined in the following manner:

Prepare the vegetables for pickling, as above.

Put into an earthenware crock or basin.

Cover with brine and leave for 24 hours. Any exception to this will be given in the recipe. See that the vegetables are really covered by the brine.

Drain well before use.

If brining is not suitable or convenient, use *Dry Salt* sprinkled liberally between the layers of vegetables, which should be in a shallow earthenware crock. Allow ½ lb. salt to 3 lb. of vegetables. Rinse well and drain before packing and using.

Vinegar is the most important preserving ingredient in pickling and must contain a minimum of 5% acetic acid. It is wise to buy bottled vinegar and not draught vinegar, as the bottled varieties can be relied on to contain 5–6% acetic acid. There are a number of different kinds of vinegar, and when it comes to pickling care should be taken to select the most suitable vinegar for each pickle. It is worth experimenting and varying the vinegars, as this will give a different flavour to the pickle, as will a similar changing about of the spices and other flavouring ingredients.

Types of vinegar are:

Brown Malt vinegar. For general use and for shallots.

White Malt vinegar. Clear, light pickles, and for white or red vegetables.

Wine vinegar, white or red. Sweet pickles, fruit pickles.

Cider vinegar (as for wine vinegar)

Spices and Herbs are used to give the pickles a special flavour. The oils in the spices also have a certain preservative effect. Buy the spices separately if possible, so that the flavour can be controlled according to the recipe. Ready-mixed pickling spice is of uncertain quality and usually contains too much of the cheaper varieties. Moreover, the spice jars on a kitchen shelf add a touch of glamour to cookery, and a successful

experiment with them is something more than satisfying to the cook.

The Spices most commonly used for pickles and chutney:

Allspice	A berry found mainly in Jamaica, so called because it seems to have a compound flavour of many spices
Cardamom	Dried fruit of an Indian shrub.
Cayenne pepper	Powdered chillies.
Chilli	The dried seed-pod of Capsicum, tropical plant.
Cinnamon	Bark of a small tree from Ceylon.
Cloves	Dried flower-buds of the clove tree.
Coriander	Dried fruit of a Mediterranean shrub.
Ginger	Dried root of an Eastern plant, scraped for white ginger, unscraped for black ginger.
Mace	The outer layer of the nutmeg fruit.
Nutmeg	Fruit of the nutmeg tree.
Mustard	Black, brown or red mustard, the seeds are used whole or ground in pickling.
Pepper	Fruit of an Indian tree. Black pepper comes from fruit picked before ripe, white pepper from fully ripe fruit.
Turmeric	Root of an Indian plant, dried and ground to a yellow powder.
Saffron	Dried stamen of a crocus-like flower.

Herbs are mostly used in chutney-making and occasionally in pickles. The most common herbs:

Bay Leaves	Leaves of a small laurel bush.
Garlic	Bulbs of a vegetable plant.
Horseradish	Root of a vegetable.
Mint	A well-known herb with several varieties, e.g. apple, peppermint, eau-de-cologne mint.
Sage	Leaves of a bushy plant.

Tarragon	The leaves of a small plant.
Thyme	Several kinds, e.g. Lemon Thyme.
Rosemary	Leaves of a bushy plant.
Borage	Leaves and flower of a small plant.

Other ingredients which may be used in pickling are *sugar* and various *dried fruits*, which need not be discussed in this chapter.

SPICED VINEGARS

As the basis of a well-flavoured pickle, spiced vinegar is used as the liquid to cover the selected vegetables and fruit. There are two ways of making spiced vinegar, the first is the better one for quality, but the second is quite satisfactory when time is short.

Method 1. Steep the whole spices in the vinegar in closed bottles for 2–3 months. Shake occasionally. Before use, allow to stand undisturbed for 2–3 days and then decant carefully, straining through a fine cloth.

Method 2. Heat the vinegar and whole spices together to *boiling* point. Cover with a lid and allow to infuse for 2–3 hours. Strain well through a fine cloth.

When using the second method there will be a strong smell in the kitchen, so keep the kitchen door shut and the window open otherwise the whole house will be spiced.

RECIPES FOR SPICED VINEGAR

To 1 quart of Vinegar:

Mild Spice	**Medium Spice**
¼ oz. cinnamon	½ oz. cloves
¼ oz. cloves	½ oz. allspice
¼ oz. mace	½ oz. cinnamon
¼ oz. allspice	½ oz. ginger
a few peppercorns	½ oz. white peppercorns

Hot Spice	Aromatic Spice
1 oz. mustard seed	½ oz. allspice
¼ oz. chillies	½ oz. coriander
1 oz. allspice	¼ oz. cardamom
½ oz. cloves	¼ oz. cinnamon
½ oz. black peppercorns	12 cloves
	6 bay leaves

Cloves, allspice berries and black pepper should not be used when a clear, white appearance is wanted, for example, in a pickle of small, white onions or cauliflower. These three spices tend to stain the vegetables, although it is less likely to occur when the spiced vinegar is made by the first or "steeping" method.

All the spices are removed before the pickles are bottled. Chillies are an exception, as they are used to give colour to a jar of white onion pickle by just leaving two or three chillies against the side of the jar.

Use chillies which have been infused with the spiced vinegar and *not* fresh from the packet, otherwise the pickle during storage will become too hot to eat.

EQUIPMENT FOR MAKING PICKLE AND CHUTNEY

Pans should be thick and made of strong metal which will not be affected by the acid. The best are thick aluminium, stainless steel or enamel-lined iron pans. In using an enamel pan, make sure that it is not crazed or damaged in any way.

Sieves should be of nylon, hair, or stainless steel. Other metal sieves will be damaged by the acid in the vinegar and will give an unpleasant flavour to the pickle or chutney.

Miscellaneous. Chopping board, mincer, knives, wooden and metal spoons, scissors, basins and muslin.

Jars. Ordinary jam jars or other clean jars may be used. There are special pickle and chutney jars which are more suitable, as there is a special vinegar-proof cover sold to fit each jar.

Covers must be vinegar-proof and reasonably air-tight. The following may be used:

Cork to fit the jar as tightly as possible. Boil old corks first and fit with a layer of greaseproof paper between the cork and the pickle or chutney.

Strong greaseproof paper covered with cotton material dipped in paraffin wax and tied down with soft string.

Synthetic skin, e.g. "Porosan", tied down with soft string.

Special lacquered metal lids, fitted with a cardboard disc covered with a vinegar-proof paper known as "Cerasin".

Labels. Those suitable for jam jars will do for pickle and chutney.

METHOD OF MAKING CLEAR PICKLES

Prepare spiced vinegar by cold steeping method 2–3 months in advance or by the boiling method, 2–3 hours before use (see page 108).

Prepare vegetables and fruit.

Soak vegetables in brine for 24 hours or dry salt for 24 hours.

Drain well or rinse and drain dry the salted vegetables carefully.

Pack into jars to within $\frac{3}{4}$–1 in. of the top of the jar.

Cover with hot or cold spiced vinegar, choosing the flavour to suit personal taste.

Hot spiced vinegar is used for pickles which are wanted soft, e.g. walnuts, plums, peaches.

Cold spiced vinegar for crisp pickles, e.g. cabbage, onions, cauliflower, mixed pickles.

Make sure that the vinegar is at least $\frac{1}{2}$ in. above the level of the topmost fruit and at least $\frac{1}{4}$ in. below the lip of the jar to keep from contact with the metal top.

Cover with vinegar-proof cover.

Label with type and flavour of vinegar and date.

Store at least 2–3 months in cool, dry, dark place.

METHOD OF MAKING PICCALILLI

As above. The preparation of the vegetables is the same as for making clear pickles. After brining and draining:

Vegetables are cooked either in the hot spiced vinegar or in the thickened, flavoured Piccalilli sauce, according to the recipe.

Vegetables are packed into jars, as above.

The vinegar is made into Piccalilli sauce if this has not been done and is poured *hot* over the vegetables.

The jars should be warm, clean and dry and standing on a wooden board before being filled with the hot vegetables or hot liquid.

Cover and store as for clear pickles.

METHOD OF MAKING SWEET PICKLES

Fruit is usually the basis of sweet pickle and it is prepared according to its type. Details are given on page 105.

Heat the spiced vinegar with sugar. Then either:

Gently cook the fruit in the pan in the vinegar syrup, or

Pack the fruit into jars and place in a cool oven until almost tender. Then pour over the cooked fruit the hot spiced vinegar syrup. Seal at once.

If the former method is used, pack the fruit gently into jars. Then reduce the vinegar syrup by boiling to a thick, syrupy consistency and pour it over the fruit.

Cover and store as for clear pickles.

If the latter method is used it is essential to use fruit bottling jars with glass lids which will make a completely air-tight, vacuum seal. Do *not* use metal lids.

PICKLE RECIPES

A variety of pickle recipes is offered here, and it is as well to remember that these recipes may themselves be varied by using different spiced vinegars. They are divided into the appropriate kinds of pickle, clear, sweet and piccalilli.

CLEAR PICKLES

Cauliflower

Choose good-looking cauliflowers and break up the heads into small pieces. Put them in a large basin and cover with brine. Leave for 24 hours. Drain well, pack into jars or bottles, cover with cold, spiced vinegar and seal the jars.

Cucumber and Onion

2 lb. cucumber
1 lb. small white onions
1½ pt. spiced vinegar

Cut the cucumber into slices about ½ in. thick and quarter them. Peel the onions and slice them finely. Mix the two together in a deep basin and cover with salt. Soak in brine for 24 hours, then drain well. Pack into jars and cover with unspiced vinegar for 24 hours, then drain and cover with spiced vinegar. Tie down well and allow to mature before using.

Gherkins

Soak the gherkins in brine for 3 days, drain well and pack into jars. Pour hot spiced vinegar over them, cover at once and leave for 24 hours in a warm place. Drain off the vinegar, bring it to the boil and pour it over the gherkins again, being careful not to crack the jars. Cover tightly and leave for another 24 hours. Repeat this process until the gherkins are a good, green colour. After the final process, a little more vinegar should be added if necessary and the jars corked and stored.

Onions

Choose small, even-sized, white onions and place them without peeling to soak in brine for 12 hours. Then peel, soak in fresh brine for 24–36 hours, keeping them covered with the liquid. Drain well, pack into jars and cover with cold spiced vinegar. Cork and store for 3 months.

Red Cabbage

Select firm cabbages of a good colour, remove outer leaves and shred the cabbage. Place the shreds in a large basin and sprinkle each layer with salt. Leave for 24 hours, then rinse and drain thoroughly. Pack loosely into bottles or jars and cover with cold spiced vinegar. This pickle may be used after one week, but the cabbage will lose its crispness if stored for longer then 2 or 3 months.

Beetroot

Wash the beets without breaking the skins. Place in boiling salted water and stew gently for 1½ hours, or cook for 20 minutes in a pressure pan at 15 lb. pressure. When cold, peel and slice into rounds about ¼ in. thick. Pack loosely into bottles and cover with cold spiced vinegar.

SWEET PICKLES

Sweet Pickled Cucumber

Cut the cucumbers lengthwise down the centre and carefully remove the seeds. Cut into 1 in. lengths. Do *not* peel. Place in a basin and cover with salt. If a large quantity is being made, sprinkle salt between each layer. Leave with a cover over the basin for 2–3 days, stirring once or twice. Drain off the liquid and rinse away some of the salt. Dissolve ¾ lb. sugar in each pint of medium-hot spiced vinegar and stew the cucumber gently in the sweetened vinegar until the skin is soft. Take out the pieces and pack neatly into pickle jars, using not more than 4 chillies as a garnish to each 10 oz. jar. A very attractive bottle can be arranged with little trouble. Boil the remaining syrup until thick, then pour into the jars so that the cucumbers are covered by at least ½ in. of vinegar. Cover and store in the usual way.

Sweet Pickled Peaches

White or yellow fleshed peaches may be used and poorly shaped fruit or bruised fruit are quite suitable if the bruised parts are cut away. Skin the peaches by holding in boiling water for ½ minute. Cut into neat pieces. Put 1 pt. mild spiced vinegar into a pan and add 2 lb. sugar, stir until dissolved. Put in the pieces of peach and cook very gently until the fruit is soft but not broken. Take out the fruit and pack into suitable jars. Boil the sweetened vinegar until it is thick and syrupy, then pour it over the peaches in the jars. These tend to pack down and form air bubbles, which can be released by passing a knife blade gently down the side of the jar. Cover the topmost peaches with at least ½ in. of syrup. Cover tightly and store.

Spiced Apples

2 lb. crab or small apples — 2 lb. sugar
1 pt. spiced vinegar

Dissolve the sugar in the spiced vinegar to make a syrup. Prick or halve the apples and put them in a pan with the syrup. Simmer slowly until the fruit is tender but not broken. Pack the fruit into jars. Re-boil the syrup to reduce it to about ½ pt., then pour it while still hot over the apple pieces in the warm jars. Cover at once.

Spiced Prunes

2 lb. prunes — ½ lb. sugar
1 quart spiced vinegar

Soak the prunes in the vinegar, strain off and add the sugar to the vinegar. Bring the syrup to the boil in a preserving pan, put in the prunes and cook gently until tender. Pack into jars and cover with the hot syrup, which will be thick enough without further boiling. Cover at once.

Sweet Pickled Damsons or Pears

8 lb. damsons or cooking pears — 4 lb. sugar
rind of ½ lemon — 2 pt. spiced vinegar

Wash and stalk the damsons or peel, core and cut the pears into neat pieces. Dissolve the sugar in the spiced vinegar and add the lemon rind. Cook the fruit gently in the syrup until quite tender. Drain off the liquid and pack the fruit neatly into jars. Boil the vinegar again until slightly thick, then fill each jar with enough hot syrup to cover the fruit by at least ½ in. Cover at once and tie down securely.

N.B. Use aromatic or mild spiced vinegar.

PICCALILLI OR MUSTARD PICKLES

Piccalilli (1)

Prepared vegetables
3 lb. marrow
1 lb. cauliflower
¾ lb. beans
½ lb. onions
½ large cucumber

6 oz. sugar
1½ oz. mustard
1½ oz. ground ginger
¾ oz. flour
½ oz. turmeric
1 quart vinegar
¾ lb. salt

Cut the vegetables into small pieces, sprinkle with the salt and leave for 24 hours. Mix a little vinegar with the spices and flour. Rinse and drain the vegetables and boil in the vinegar and sugar for 20 minutes. Stir in the spices and boil for 3 minutes. Pour into warm jars and seal at once.

Piccalilli (2) A sweeter recipe

3 lb. mixed, prepared vegetables, including diced cucumber, marrow, beans, green tomatoes, small onions and florets of cauliflower.

½ lb. salt
6 oz. sugar
1 tablespoon plain flour
1 teaspoon dry mustard

¼ oz. turmeric
½ teaspoon ground ginger
2 quarts water
1½ pt. white vinegar

Dissolve the salt in the cold water, add the prepared vegetables and allow to soak overnight. Drain off the liquid and cook the vegetables for about 20 minutes in most of the

vinegar, sugar and spices. Drain and pack into warm jars. Make a paste of the flour, turmeric and the remainder of the cold vinegar, add it to the hot syrup and boil for 1 minute. Pour over the vegetables, cork and seal at once.

Chow-Chow (Chinese Pickle)

½ lb. of each of the following prepared vegetables: cucumber, onions, green tomatoes, French beans, cauliflower, chopped celery, shredded cabbage.

¼ lb. sugar
1 pint spiced vinegar aromatic or mild
1 pt. unspiced vinegar
1½ oz. mustard
1 oz. plain flour
¼ oz. turmeric

Prepare the vegetables and cut or break into even-sized pieces. Mix together in a deep bowl and soak in brine for 24 hours (½ lb. salt to 2 quarts water). Drain well and cover with unspiced vinegar for 12 hours. Make a paste of the mustard, flour, turmeric and sugar. Bring the spiced vinegar to the boil and stir in the paste. Drain the vegetables and add them to the boiling thickened, spiced vinegar. Allow to stew gently for 20 minutes, then fill into warmed jars and cover.

VINEGARS

Vinegars flavoured with herbs and fruit are a very useful addition to the store cupboard. The quantity required of any one kind is small, but variety of flavour makes all the difference to salad dressing, whether it be in the tradition of Old English Salad Cream or a thin French dressing. Fruit-flavoured vinegars are usually sweet and make a good dressing for salads which have fresh fruit or nuts as part of the salad.

There are many other uses for flavoured vinegars, but it is worth recording that our great-grandparents enjoyed raspberry vinegar as a drink and used it as we use fruit squash. It had a reputation for being an admirable thirst quencher and quite

the elegant thing to offer at the end of a bout of croquet. Served hot it was a favourite cure for colds.

Fruits suitable for making flavoured vinegar are: raspberries, loganberries, blackberries, red or white currants.

Fruit Flavoured Vinegar recipe

1 pt. white, malt or spirit vinegar
1 lb. soft fruit
1 lb. approx. granulated sugar

Put the fruit into an earthenware or china basin, pour on the vinegar and stir well. Cover with a plate or cloth and leave for about 5 days, stirring occasionally. Strain off the vinegar into a saucepan, add the sugar allowing 1 lb. sugar to 1 pt. vinegar. Boil 10 minutes. Strain into bottles, cork and label with the type of fruit, sweet or sour, and the date.

N.B. Sugar may be omitted from this recipe and the vinegar served unsweetened, or the sugar may be added before drinking.

Herb Flavoured Vinegars

The "cold infusion" method gives the best results for herb flavoured vinegars. Choose wide-necked jars which can be fitted with either a cork or some vinegar-proof stopper, such as glass. The "Kilner" glass-topped preserving jars are suitable for this purpose.

Gather the herb leaves just before the plant flowers. Half fill the jars with herb leaves and fill to the top with vinegar. White or brown, malt or spirit vinegar may be used. Steep for 2–3 weeks, shaking occasionally. Allow to stand undisturbed for 3 or 4 days before decanting the vinegar. Bottle, cork and label with type of vinegar, date and time of infusion.

Herbs suitable for making herb flavoured vinegar: Tarragon, chilli, garlic, thyme, chervil, basil, shallots, elderflower.

Garlic should be bruised before putting into jar.

Shallots are used—8 shallots to 1 pint wine vinegar.

Elderflowers—use sprays of flowers gathered just before fully open.

Mixed Herb Vinegar recipe

To 1 gallon wine or white distilled vinegar add: 4 oz. each of chives, shallots, tarragon, winter savory, balm, and a handful of mint.

Pound all the herbs well and pour the vinegar over them. Stir well each day for 14 days. Strain and squeeze herbs in muslin. Leave to settle, then strain again and bottle.

SECTION 6

CHUTNEY AND SAUCE-MAKING

CHUTNEYS and fruit sauces are both very pleasant preserves, and judging by the enormous sale of factory-made sauces they are a very popular adornment of the Englishman's dining-table.

This method of preserving makes use of heat, acid in the form of vinegar, and salt to preserve the fruit and vegetables and to keep them in an appetising condition. The addition of spices and sugar helps to give these preserves their characteristic flavour, but are not preservatives. The quantity of sugar added is not sufficient to preserve without acid and the spices may disguise an "off" flavour but do not themselves keep the food from decomposing.

CHUTNEY

The ideal chutney should be a happy blending of flavours resulting in a mellow, matured preserve. Although chutney

may be made from a variety of exciting, and even "hot" ingredients, the final result should be one single flavour smooth and mellow to the tongue.

INGREDIENTS

Fruit. The most usual fruits used for chutney are: apples, gooseberries, plums, ripe and green tomatoes.

The fruit need not be perfect in shape but should have the bad or damaged parts removed.

Vegetables. Onion, garlic and shallots are used to give flavour. As these are rather tough, they are often cooked first before being added to the softer ingredients.

Spices and Flavourings. These are usually the sweet, hot spices, such as: cinnamon, nutmeg, mace, ginger, mustard, cayenne, paprika and chilli. Sometimes they are added in the form of finely ground powder or are cooked whole with the chutney and removed after cooking. In certain recipes the spices are left whole in the chutney to aid in the maturing process. More often it is simpler to use a spiced vinegar, using one of the recipes given in the chapter on Pickles and Vinegars. Many of the recipes for chutney say "use spiced vinegar," and then the flavour may be varied by choosing either a strong or an aromatically spiced vinegar according to taste.

Dried Fruits may also be considered as flavouring, although they also increase the sweetness of the chutney. The usual dried fruits are: dates, raisins, sultanas.

Sugar. Any type of sugar may be used, white or brown, and a proportion may be in the form of golden syrup or treacle. For the brightest colour use white sugar and add it towards the end.

Vinegar. This is the most important ingredient as it is the chief preserving agent. It should be a brewed or distilled vinegar with an acetic acid content of at least 5%. Good

bottled vinegar always contains this amount of acetic acid. There are various brewed vinegars, each having a different basis, such as malted barley, cider or wine. In addition, flavours and spices are added to make the characteristic spiced vinegars suitable for pickles and chutneys. (See page 108).

METHOD OF MAKING CHUTNEY

The ingredients are usually chopped or minced before cooking.

The tougher ingredients, e.g. onions, are cooked first in a little water in a closed pan.

The rest of the ingredients, except the sugar, are then added and cooking continued slowly for a long period, about 1 to 2 hours. The lid is left off the pan to allow for evaporation and thickening of the chutney. Care must be taken to prevent the chutney sticking to the pan and burning, so stir well during the final stages.

Add the sugar towards the end of the cooking and stir well.

Chutneys made from certain fruits, such as blackberries or tomatoes, which have pips or tough skins, are often sieved to produce the smooth texture proper to chutney.

The vinegar may be added either all at once during the cooking or gradually over the whole period of cooking. The latter is more economical in the use of vinegar.

To judge when the chutney is cooked, the mixture should appear thick and smooth and there should be no free vinegar floating on the surface.

Chutney should be potted or bottled when hot. The jars must be clean, dry and warm.

The covering of chutney, as for all preserved foods, is most important. The covers must be of such a kind that they will not corrode as a result of being in contact with the acid and must be sufficiently airtight to prevent evaporation.

Label according to type and date.

CHUTNEY RECIPES

The following selection is intended only as a guide, or perhaps an inspiration. Chutney-making offers scope for the imagination and, something after the way of wine, there is always the added interest of the varying flavour due to months and years of maturing. Do not be tempted to use chutney before the full flavour has had time to develop, that is for at least three months after making.

Apple Chutney

6 lb. apples
3½ lb. sugar
2 lb. sultanas
¾ lb. preserved ginger
1 teaspoon of allspice
1 oz. salt
3 pints vinegar

Peel, core and mince or chop the apples and the sultanas and ginger. Put the vinegar, sugar, salt and spices together in a pan and bring to the boil. Add the apples and simmer for 10 minutes before adding the sultanas and ginger. Continue cooking slowly until the mixture thickens and is ready for potting.

Apple & Tomato Chutney

3 lb. apples
3 lb. tomatoes
1 lb. onions
1 lb. sugar
½ oz. white peppercorns
1 oz. ground ginger
1 quart vinegar
2 oz. salt

Skin and chop the tomatoes and the onions and slice the apples. Place them altogether in a large bowl and cover with the vinegar and allow to stand for 24 hours. Put into a preserving pan and add the sugar, spices and salt. Bring to the boil and simmer for ½ hour or until soft. Pot while hot in warm jars and cover tightly.

Apple & Plum Chutney

1 lb. apples
3 lb. plums
1 lb. chopped carrot or turnip
1 lb. raisins
½ lb. onions
1 lb. sugar
¼ lb. salt
1 teaspoon cloves
1 teaspoon cinnamon
1 teaspoon ground ginger
1 teaspoon allspice

Quarter the plums and throw away the stones. Peel and core the apples and chop finely. Also chop the onions and raisins. Put the vinegar, sugar and spices together in the pan and bring to the boil. Add the plums, apples and carrot or turnip. Simmer until thick and ready for potting.

Apple & Date Chutney

1 lb. apples
2 lb. dates
½ lb. sultanas
1 lb. onions
1 lb. treacle
2 tablespoons sugar
4 oz. salt
pinch of cayenne pepper
2½ pints vinegar

Stone the dates, peel the apples and onions, and then mince altogether. Put the vinegar, treacle, sugar, salt and spices in a pan and bring to the boil. Add the minced fruit and continue cooking until the mixture thickens in about ¾ hour.

Date (1)

3 lb. dates
1 lb. onions, mild flavour
½ lb. raisins
¼ lb. currants
½ lb. sugar
2 oz. salt
1 oz. allspice
½ oz. mustard
1 quart vinegar

Stone and cut the dates into small pieces, chop the onions finely, and the raisins. Mix these with the other materials in a preserving-pan and cook thoroughly until the mixture thickens. Pour while hot into warm jars and seal tightly.

Date (2)

1 lb. stoned dates
¼ lb. stoned raisins
¼ lb. shallots or onions
¼ lb. sugar
2 cloves garlic
¼ oz. salt
6 red chillies
1 pint vinegar

The dates, raisins, onions and garlic should be minced or chopped finely, put in a pan with the other ingredients and simmered until tender. Pot while hot and seal at once.

Gooseberry

2 lb. green gooseberries
1 lb. stoned raisins
¾ lb. onions
1 lb. sugar
¼ lb. mustard seed
2 oz. allspice
1 quart vinegar
¼ lb. salt

Bruise the mustard seed gently. Mix the sugar with one pint of vinegar and boil until a syrup forms, then add the finely chopped onions, raisins and spices. Boil the gooseberries in the rest of the vinegar until tender, then mix both lots together and cook until the mixture thickens. Cover at once. Store for at least 3 months.

Indian Chutney (1)

2 lb. apples
1 lb. sultanas
½ lb. stoned raisins
2 lb. brown sugar
¼ lb. salt
1 oz. garlic
1 oz. red chillies
½ oz. mustard powder
¼ oz. ground ginger
1 pint vinegar

Peel and slice the apples and mix with the salt. Allow to stand for 24 hours to harden the apples and keep them in slices like mangoes. Drain the apples from the salty water and cook gently in ½ pint vinegar until tender. Allow to cool. Add the sugar to the remaining ½ pint vinegar and cook until syrupy. Add the mixed mustard and ground ginger to the syrup and cook 5 minutes. Mince finely together the garlic, chillies, raisins and sultanas and add them to the syrup.

Finally add the apples and remaining vinegar and cook slowly until the chutney thickens. Pour into warm jars and cover at once while hot.

Indian Chutney (2)

5 lb. apples
1 lb. onions
1 lb. raisins
1 lb. sultanas
1 lb. sugar
1 teaspoon ground ginger
1 teaspoon dry mustard
1 teaspoon bruised allspice
1 quart vinegar
2 oz. salt

Peel, core and slice the apples, then mince or chop together the apples, onions, raisins and sultanas. Add all the other ingredients to the vinegar and bring to the boil. Then put in the minced fruit and simmer gently until the mixture thickens. Pour into warm jars while hot and cover tightly.

Rhubarb

5 lb. rhubarb
1 lb. onions
2 lb. sugar
½ oz. ground ginger
½ oz. salt
2 oz. mixed ground spice
or ¼-½ oz. curry powder
1½ pints vinegar

Cut up the rhubarb, mince the onions, and put them in ½ pint vinegar in a pan with the salt, sugar and spice. Simmer gently until the rhubarb is tender. Add the remaining vinegar and cook slowly until the chutney thickens. Stir continuously whilst cooking. Bottle hot and seal at once.

Ripe Tomato

12 lb. tomatoes
1 lb. onions
1½ lb. sugar
1 pint distilled white spiced vinegar
¼ oz. paprika
pinch of cayenne pepper
1½ oz. salt

To skin the tomatoes put them in boiling water for ½ minute, then chop them up with the onions. Put them together into a pan and cook until a thick pulp is formed. Add half the

vinegar and the spices and continue cooking until thick again. Then add the sugar dissolved in the remaining vinegar and simmer until thick once more. Pour into warm jars and cover whilst still hot.

Pound Chutney

1 lb. each of: ripe tomatoes, apples, onions, sultanas.
1 lb. sugar
2 tablespoons salt
2 tablespoons curry powder
1 pint vinegar, (wine or cider type)
1 oz. ground ginger

Chop the onions and cook in a very little water until soft. Peel, core and chop the apples, halve or chop the sultanas. Skin and chop the tomatoes. When the onions are fully cooked add the tomatoes, apples, sultanas, sugar, salt, vinegar and spices. Cook gently until all the fruits are soft and the chutney is smooth and jam-like. Test by putting a little chutney on a plate, when it should be set without any loose vinegar if it is ready. Pot while hot and cover at once.

Sweet Peach Chutney

6 small unripe peaches
½ lb. chopped sultanas
¼ oz. salt
1 lb. strawberry jam
¾ lb. demerara sugar
½ pint vinegar
¼ oz. ginger
½ oz. mustard seed

Wash and skin the peaches and cook slowly with the sultanas until tender. Then add the remaining ingredients and boil together for about 35 minutes until the chutney is quite thick. This chutney is smooth and has a fruity flavour.

Mint Chutney

2 lb. apples
¼ lb. raisins
½ teaspoon mustard
1 teaspoon salt
¼ pint vinegar
¼ lb. sugar
½ teaspoon cayenne pepper
large handful of mint chopped finely

Peel and core the apples and put them through a mincer with the raisins. Mix all the ingredients together, add the vinegar and boil at simmering point until the fruit is tender and a smooth chutney is formed.

Sweet Pepper Relish

6 ripe red sweet peppers
1 lb. red tomatoes
½ lb. onions
½ lb. apples
¾ pint spiced vinegar
½ lb. sugar
½ oz. salt

Halve the peppers and remove carefully all the seeds. Prepare the onions and apples, skin and chop the tomatoes. Put all these through the mincer, then into a pan with the vinegar and salt. Cook gently until everything is really soft and the mixture begins to thicken. Then add the sugar and boil fairly briskly until the consistency of jam is reached. Test a little on a plate, if there is no free vinegar it is ready. Pot while hot and cover at once. If made in this way by adding the sugar just before the end, the chutney should be a bright red colour.

SAUCE-MAKING

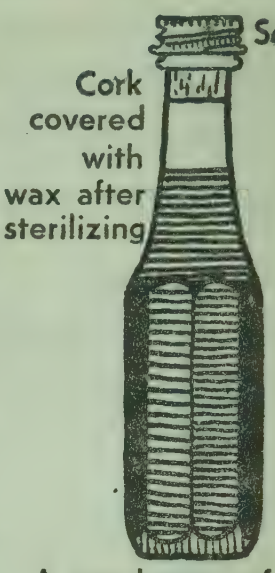
Fruit sauces are made from the same ingredients as chutney. The difference in the method of making is that all sauces are sieved and as a result are of a thinner and smoother consistency than chutney.

EQUIPMENT

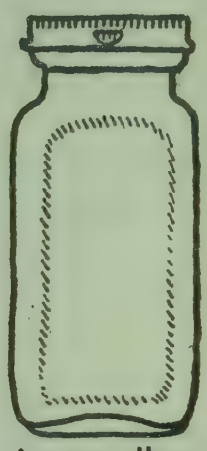
Jars and Bottles. Special sauce bottles with screw-tops and fairly wide necks can be obtained. Or one can use empty commercial sauce, ketchup or salad cream bottles that may have been left in the cupboard. If these are not available, bottling jars with glass tops or jam jars may be used, but of course they are not so adaptable for use at the table.

Covers. The ideal cover is a cork which fits the bottle neck tightly and which is held down either by string or by a screwcap. This cork should be waxed over after the sauce is cool to make it absolutely airtight. If this is not done the sauce may discolour at the top due to oxidization.

If jam jars must be used, try to get corks to fit and then cover them with a waxed cloth. Do *not* use metal topped jars without good protection between the sauce and the metal cover. Synthetic skin covers can be used on fruit bottling jars.



A good type of bottle for sauce or syrup



An excellent type of jar for pickles or chutneys

METHOD OF MAKING FRUIT SAUCE

In general the directions for making chutney apply to fruit sauces, but in the latter case all the ingredients are sieved after being softened by cooking. Then, the *purée* is boiled until it begins to thicken. To test whether the sauce is sufficiently cooked, put a little on a plate and if the vinegar does not separate the sauce is ready.

Sterilization. Sauces made from certain fruits and vegetables which contain little acid, such as tomatoes and mushrooms, will ferment if they are not sterilized. Sterilizing is done after bottling and sealing, as follows.

Sterilize corks before use, by boiling for 15 minutes.

When filling the bottles or jars with fruit sauce to be sterilized, leave a space of 1½–2 inches from the top to allow for expansion during heating.

If no screw-cap is available, the cork must be tied down with string to prevent it popping out during sterilization. (See diagram on page 83).

Sterilize in a pan of simmering water, as for fruit bottling. Times and methods are given with each recipe.

Sealing. All corked jars and bottles should be painted over with melted paraffin wax as soon as they are cool, to ensure that they are completely airtight.

RECIPES FOR FRUIT SAUCES

Mushroom Ketchup

3 lb. mushrooms
3 oz. salt
¼ teaspoon clove
¼ teaspoon clove
¼ teaspoon cinnamon
1 pt. vinegar
1 teaspoon allspice
½ teaspoon mace
½ teaspoon ginger

Clean and break up the mushrooms into small pieces, sprinkle with salt and leave for about twelve hours. Pulp the mushrooms with a wooden spoon, add the vinegar and spices and allow to simmer for ½ hour in a pan with the lid on. Strain through a hair or nylon sieve and pour while hot into heated bottles and seal at once. Sterilize immediately after bottling in a pan of simmering water and keep at simmering point for ½ hour.

Plum Sauce

8 lb. plums
1 lb. onions
½ lb. currants
1 lb. sugar
2 oz. salt

either 1 qt. spiced vinegar
or...1 qt. vinegar
...1 oz. bruised root ginger
...1 oz. whole allspice
...½ oz. chillies
...½ oz. peppercorns
...½ oz. mustard

Cut up together the plums and onions, add the currants and 1 pt. spiced vinegar or 1 pt. vinegar and spices. Simmer for ½ hour then strain through a hair or nylon sieve. Add the sugar and salt and the remainder of the vinegar. Simmer for 1 hour

and bottle while hot. There is usually no need to sterilize plum sauce, as the plums are sufficiently acid.

Ripe Tomato Sauce

12 lb. tomatoes
1 lb. sugar
1½ oz. salt
¼ oz. paprika
Pinch cayenne
2 fluid oz. Tarragon or Chilli vinegar

Spiced vinegar:
1 pt. distilled vinegar
¼ oz. cinnamon bark
¼ oz. whole allspice
¼ oz. blades of mace

Place the spices in a muslin bag in 1 pt. distilled vinegar, bring to the boil and allow to infuse for five hours in a pan with the lid on. Skin the tomatoes by dipping in very hot water, then strain through a hair or nylon sieve. Add sugar, salt and both peppers and simmer until the sauce begins to thicken. Add the spiced vinegar and the Tarragon or Chilli vinegar and continue simmering until the sauce has the consistency of thick cream. Pour into heated bottles and seal at once. Sterilize immediately after bottling in a pan of simmering water and keep at a simmer for ½ hour.

Tomato and Apple Sauce

1 lb. tomatoes, ripe
4 oz. sugar
4 oz. onion or shallot
1 teaspoon salt
12 peppercorns

1 lb. apples (2 large)
¼ pt. vinegar
6 cloves
2 pieces root ginger
2 chillies

Wash and cut up together the tomatoes and apples and the peeled onions. Cook gently in a covered pan until soft, then add vinegar, sugar and spices and continue simmering for ½ hour with the lid on. Then sieve, return to the pan without the lid and cook for about ¼ hour until the sauce thickens. Bottle and sterilize as above.

Damson Sauce

3 lb. damsons, fully ripe
½ lb. onions
¼ lb. sultanas
1½ pt. spiced vinegar
½ lb. sugar
1 oz. salt

Cook all ingredients together gently until the fruit and onions are well broken down. Sieve and return to the pan and simmer until the sauce is a thick creamy consistency. Remember that the sauce will thicken when cold. Bottle while hot, but there is no need to sterilize damson sauce.

Elderberry Sauce

4 lb. elderberries
6 oz. onions
2 tablespoons salt
1 pt. spiced vinegar
3 lb. sugar

Wash the elderberries and remove the main stalks. Put all the ingredients together and simmer until well broken down and until the onion is thoroughly cooked. Sieve and return to the pan to cook until the sauce has thickened and no free vinegar remains on top. Bottle while hot and sterilize for ½ hour as above.

Green Tomato Sauce

3 lb. tomatoes, green
1 lb. apples
½ lb. sugar
2 small onions or shallots
1 tablespoon salt
½ tablespoon gravy salt (to colour)
½ pt. vinegar
1 teaspoon ground pickling spice
½ teaspoon pepper
½ teaspoon dry mustard

Cut up the tomatoes, apples and onions finely and cook with all the other ingredients gently for about one hour, stirring occasionally. Sieve, return to the pan and simmer until thickened. Bottle while hot and sterilize for ½ hour as above.

SECTION 7

PRESERVATION OF VEGETABLES

PRESERVATION of vegetables lacks the excitement of necessity which makes fruit preservation such a demanding occupation. The fruit season is short and the delicious soft fruits which abound in our gardens make good preserves and add charm to cooking. Vegetables are different and somehow or other the greengrocer or the gardener is able to produce quite a variety all the year round, so the challenge to the housewife to show her skill is not so great. Nevertheless, no book on preservation is complete without some reference to this subject, if only to answer the question "why don't you preserve vegetables?" It is as well to know the why's and wherefore's.

PRINCIPLES OF PRESERVATION OF VEGETABLES

Vegetables are usually in contact with the soil and are likely to be contaminated with a variety of soil organisms. Among these may be *clostridium botulinum*. The spores of this organism

are capable of producing a food toxin in a closed can or bottle causing botulism, which is a fatal food poisoning. This toxin may be present without obviously spoiling the contents of a bottle or a can. It causes no obvious smell or discoloration.

This particular organism does not grow where there is acid present in the food. We know that many other organisms are destroyed at a comparatively low temperature, i.e. at or below boiling point of water, when there is acid present. That is why fruits are easily sterilized and preserved. Non-acid vegetables require very high temperatures to destroy the organisms present and that is why a pressure cooker is essential to ensure a temperature of 240 deg.F. for 35–40 minutes; the 10 lb. pressure gives this desired temperature.

Adding acid to non-acid foods and sterilizing at atmosphere pressure is no way to ensure the destruction of the organisms present in vegetables or meat. The United States Department of Agriculture issued a Bulletin on "Home canning of fruits vegetables and meats". (No. 1762) and it states, "The addition of small quantities of acid such as vinegar or lemon juice to a non-acid vegetable or meat does not change the acidity of the food enough to permit processing in the boiling water bath. This can be done only if enough acid is added to pickle the food". Therefore do *not* bottle or can vegetables without a pressure cooker.

Having said all that it is possible to say to put off the enthusiastic preserver, let us examine the principles of the recommended method of preserving vegetables.

METHOD OF BOTTLING VEGETABLES

Selection and preparation of vegetables. Use only very choice young and attractive vegetables which justify the time and trouble involved. The details of preparation are given on a later page.

Scalding of vegetables is carried out after the usual pre-

paration washing and rinsing. The vegetables are held under *boiling* water and then dipped into *cold* water. The times for scalding are given with the details of preparation for the various vegetables.

Packing of vegetables into bottles is done according to size and shape but the general rule is pack firmly and neatly but not too tightly.

Brine is used for filling the jars in place of syrup. The brine recipe is given below. The liquid is always *hot*, about 140 deg.F. before adding to the vegetables. Fill to within ¼ in. of the top of the bottle.

Seal the jars in the usual way as for fruit bottling, not forgetting to give a quarter turn back to the jars fitted with screw-bands.

To Sterilize

Put 2 in. of water in the pressure pan.

Stand jars on false bottom or rack provided, taking care that they do not touch the sides or one another.

Cover with lid leaving vent open.

Heat water in pan until steam comes out through vent hole in a steady stream.

Leave 7–10 minutes to ensure that all air is expelled from the pan.

Close vent. If using a pressure pan with variable weights use 10 lb. weight.

Bring up to 10 lb. pressure i.e. temperature of 240 deg.F. Take time of sterilizing from then, usually 35–40 minutes. Be careful with a pan with a gauge that the pressure does not fluctuate.

Turn off heat and allow to cool gradually until temperature is reduced to 212 deg.F. or zero lb. on gauge.

Open vent or remove weight and open lid.

Remove jars and stand on heat-proof surface such as a

wooden board or table at once away from draught. Tighten screw-bands.

Test when cold after 24 hours by removing clip or bands and lifting by the lid, which should remain held fast to the jar if vacuum seal is effective.

Label giving type of vegetables and date.

Store in a cool, dry, dark place.

To use re-heat vegetables in brine or liquid used for bottling.

Vegetables bottled and sterilized in this way will lose some liquid during the processing, but as long as the lids are secure it is not important for keeping purposes if little liquid is left in the jars. The loss is reduced if the pressure in the pan is kept very even throughout.

Brine Recipe

For all vegetables except Peas.

4 oz. salt	1 gallon (4 quarts) water.

Dissolve the salt and bring to the boil. Use at temperature about 140 deg.F., i.e. "stinging" hot.

For Peas.

2 oz. salt	1 gallon water
4 oz. sugar	green vegetable colouring

Prepare as above and use at same temperature.

The principles of canning vegetables are the same as for bottling vegetables and again a pressure pan or cooker is essential to ensure the high temperature of 240 deg.F. The size of domestic pressure pans being small, it rather limits the number of cans to be processed at the one time and unless a large semi-commercial pressure cooker is being used, there is no economy in time as compared to bottling. But once again it is useful to know the theory of how to do it, even if only attempted once or twice in a lifetime.

PROCESS FOR DIFFERENT VEGETABLES

Vegetable	*Preparation*	*Scalding*	*Sterilising* 1 *lb. Jars*	*Sterilising* *A2½ cans*
Broad Beans	Wash and pod the beans	3 mins. in boiling water and then dip in cold water	35 mins. at 10 lb. pressure	25 mins. at 10 lb. pressure
French Beans	String if necessary and cut off ends.	3 mins. in simmering water, cold water 1 min.	35 mins. at 10 lb. pressure	30 mins. at 10 lb. pressure
Young Carrots	Remove tops and wash after scalding. Remove skin with a coarse cloth. Leave whole or slice or dice if liked	10–15 mins. in boiling water, dip in cold water	35 mins. at 10 lb. pressure	30 mins. at 10 lb. pressure
Celery	Wash and cut into suitable lengths and cut heart in halves	5 mins. in boiling water. Add ½ level teaspoon citric acid to 1 quart water to improve colour. Dip in cold water	30 mins. at 10 lb. pressure	25 mins. at 10 lb. pressure
Peas	Pod	1–2 mins. in boiling water, dip in cold	40 mins. at 10 lb. pressure	35 mins. at 10 lb. pressure
Asparagus	Prepare as for table and trim to length of jar	2–3 mins. in boiling water heads out of water, dip in cold	30 mins. at 10 lb. pressure	25 mins. at 10 lb. pressure

CHOICE AND PREPARATION OF VEGETABLES

This is the same as for bottling so the chart opposite may be referred to for preparation and scalding and the final column for sterilizing time.

METHOD OF CANNING

Cans for vegetable canning must be lined with a sulphur resisting lacquer. They are washed and rinsed and left to drain before packing.

Pack the vegetables into the cans in the same way as for bottling.

Brine is poured on to the packed vegetables to within $\frac{3}{8}$ in. of the top. The brine must be *boiling*. (See "brine recipe" above.)

Exhausting the cans. The lids are placed loosely on the cans immediately they are filled. The whole can is placed in a water bath of simmering water, the water coming to within 1 in. of the top of the can and left for 5 minutes. Remove can and seal at once. This process of "exhausting" or heating the can is necessary to drive off as much air as possible before sealing the can to prevent an unnecessary build-up of air pressure which would strain the seams of the can.

Sealing the cans must be done immediately after "exhausting" and done according to the manufacturers' instructions.

The cans will be very hot and require careful handling.

Sterilizing should be done as soon as enough cans have been sealed to fill the sterilizer. Proceed as for bottling, allowing time according to the last column of the chart on page 136.

Cooling. Remove the cans from the sterilizer after it has returned to normal pressure and cool rapidly in a sink with running cold water. When the cans are no more than blood heat, remove and allow to drain dry.

Labelling. Label the cans using the same type of labels as are advised for canned fruit, i.e. the wrap-round type. Give type of vegetable and date of canning and batch. Number if large quantities have been done at once.

POINTS TO REMEMBER WHEN PRESERVING VEGETABLES

Vegetables are more difficult to preserve than fruits and may contain organisms which may produce toxin which results in fatal food poisoning.

Vegetables should be young and fresh and preserved as soon as possible after harvesting.

Vegetables must be washed free of *all* traces of soil.

Vegetables must be scalded before packing.

Vegetables must be sterilized carefully in a pressure cooker to ensure a high enough temperature for a long enough time to destroy the micro-organisms.

Vegetables which have been preserved should be examined carefully before use. If before opening there are signs of leaking or bulging of cans discard at once.

Vegetables in cans or bottles should have a characteristic smell when opened. When opened cold they should open noiselessly.

Vegetables which for one reason or another are suspected of being bad should *never* be *tasted.*

Vegetables which appear discoloured or are in any way suspect should be disposed of in such a way that no human or other animal is likely to try to eat them.

Reminder. When using home preserved vegetables always cook them in the brine in which they were bottled.

SECTION 8

PRESERVING OF CANDIED FRUIT CRYSTALLIZED FLOWERS AND EGGS

THESE three preserves, if they may be described as such, are completely different from one another and the only reason for putting them into a section by themselves is because there just is not anywhere else to put them. No book on preserving at home is really complete unless it contains information about preserving eggs, and the other two items are so simple and yet so highly prized that it would be unkind to omit them.

CANDIED FRUIT

This method of preserving makes use of sugar as the preserving agent. The fruit is impregnated with sugar until the quantity of added sugar is in excess of the 60% required for preserving jam, while the fruit becomes sufficiently dry and is protected

by a sugary coating to prevent contamination by micro-organisms.

The sugar is added gradually in the form of syrup, increasing the strength of the syrup each time and leaving the fruit to soak for varying periods of hours or days. The initial use of a fairly weak syrup solution allows the sugar to penetrate the flesh of the fruit without toughening the skin or flesh or darkening the colour of the fruit or causing undue shrinkage. All this takes time and it is as well to remember that it takes from 11–14 days to candy fruit satisfactorily.

A mixture of sugar and glucose is often used in preference to all sugar as it improves the final result. Glucose prevents too early crystallization of the fruit and aids absorption of syrup.

FRUIT FOR CANDYING

Two main classes of fruit are suitable for this method of preserving:

Canned fruit in syrup, e.g., pineapple, apricots, peaches, plums, cherries, pears, strawberries, tangerines, mandarins, and greengages.

Fresh fruit, which must be ripe, well-flavoured and firm, e.g., small crab apples, apricots, fleshy plums, cherries, pears, greengages.

Canned fruits are simplest and most rewarding to experiment with, because being well soaked in syrup already there is less likelihood of the fruit becoming tough or shrinking.

Never attempt to candy different fruits in the same syrup.

METHOD OF MAKING CANDIED FRUIT

Method A. Using Canned Fruit

Select good quality fruit and drain syrup from the fruit.

Measure the syrup and estimate the weight of the fruit from net weight of contents shown on the can.

Place the fruit (average weight 1 lb. from a 2A can) in a bowl

large enough to allow for total immersion by the syrup.

If the fruit weighs 1 lb. make up the syrup to ½ pt. by adding water.

Pour the ½ pt. of tinned syrup and water into a saucepan and add ½ lb. sugar, or add ¼ lb. sugar and ¼ lb. liquid or powdered glucose.

Dissolve sugar over a low heat, stirring all the time until sugar is completely dissolved. Bring to boiling point.

Pour the boiling syrup over the fruit. Place a saucer on top of the fruit to keep it below the surface.

Allow 24 hours to stand.

Second day—Drain off the syrup and add 2 oz. sugar and repeat dissolving and boiling process. Pour the boiling syrup on to the fruit and leave for another 24 hours.

Third day—Repeat process, adding another 2 oz. sugar.

Fourth day—Repeat process, adding another 2 oz. sugar.

Fifth day—Repeat process, adding 3 oz. sugar, and this time when the syrup is boiling add the fruit to it and boil for 3–4 minutes. Return fruit and syrup to the bowl carefully to prevent damaging the fruit and leave to soak for 48 hours.

Seventh day—Repeat the process, adding 3 oz. sugar, re-boil the fruit and return fruit and syrup to bowl.

Leave for 3–4 days.

The syrup should be like thick honey. If not, repeat process and leave fruit and syrup for another 3–4 days.

When ready, drain the fruit from the syrup by putting the fruit on a wire cake tray over a plate. Turn the fruit occasionally and leave until no more syrup is dripping freely from the fruit.

Dry the fruit in a warm atmosphere, such as an airing cupboard, for 3–4 days, or in a very cool oven, not over 120 deg.F. for 4–6 hours. Allow to cool before packing.

Pack the fruit in boxes lined with waxed paper, with the same paper separating each layer of fruit. Cover but do not attempt to make the packet air-tight.

SUMMARY OF METHOD A

Using 1 lb. Canned Fruit and ½ pt. Canned Fruit Syrup.

Day	*Sugar to add to original ½ pt. syrup*	*Instructions*	*Soaking time*
First	½ lb. sugar or 4 oz. sugar & 4 oz. glucose	Dissolve sugar, boil syrup and pour over fruit	24 hr.
Second	2 oz.	„ „	24 hr.
Third	2 oz.	„ „	24 hr.
Fourth	2 oz.	„ „	24 hr.
Fifth	3 oz.	Dissolve sugar, boil syrup, add fruit & boil 3–4 minutes	48 hr.
Sixth	—	fruit soaking	—
Seventh	3 oz.	Dissolve sugar, boil syrup add fruit & boil 3–4 minutes	4 days
Eighth, Ninth, Tenth	—	fruit soaking	—
Eleventh	—	If ready, drain fruit and dry in cool oven or in airing cupb'd	

Method B. Using Fresh Fruit

Prepare the fruit. Unpeeled fruit, such as small crab apples, apricots, fleshy plums, should be pricked all over with a silver fork. Stone cherries. Peaches and pears must be peeled, then halved or quartered.

Cook the fruit in *boiling* water which should cover the fruit. Cook carefully until the fruit is just tender. Do *not* overcook.

Drain the fruit. Place the fruit in a bowl.

Measure the water. To ½ pt. water add 6 oz. sugar, or 2 oz. sugar and 4 oz. powdered or liquid glucose. Make into a syrup over a low heat and when boiling pour over the fruit. Leave for 24 hours.

Second day—Drain off the syrup and add 2 oz. sugar. Dissolve and bring to the boil. Pour the boiling syrup over the fruit. Leave for 24 hours.

Third, Fourth and Fifth day—Repeat process, adding

another 2 oz. sugar on each day and leaving for 24 hours.

Sixth day—Repeat process, adding 3 oz. sugar, and this time when syrup is boiling add the fruit and boil for 3–4 minutes. Return to bowl and leave for 48 hours.

Eighth day—Repeat as for seventh day and leave 3-4 days.

If the syrup is still too thin, repeat as in Method A.

Dry and finish as in Method A.

SUMMARY OF METHOD B

Using 1 lb. cooked fruit and ½ pt. water in which fruit was cooked

Day	*Sugar to add to original ½ pt. syrup*	*Instructions*	*Soaking time*
First	6 oz. sugar or 2 oz. sugar & 4 oz. glucose	Dissolve sugar, boil syrup and pour over fruit	24 hr.
Second, Third, Fourth, Fifth	2 oz.	„ „	24 hr.
Sixth	3 oz.	Dissolve sugar, boil syrup add fruit, boil 3–4 minutes	48 hr.
Eighth	3 oz.	„ „	4 days
Twelfth	—	Dry fruit as in Method A	

CRYSTALLIZED FLOWERS

This method of preserving uses a mixture of gum and sugar in the form of a crisp, airtight coating on the flowers which keeps them fresh and dry. Crystallized flowers are most useful as decorations for cakes or for party sweets. They have the advantage of being fresh and attractive in shape and colour and can make the plainest cake look attractive. The following are suitable for crystallizing:

Whole flowers: primrose, violets, forget-me-nots, apple-blossom, snowdrops, cowslips, cherry blossom, forsythia, mimosa, hawthorn, heather sprays, narcissus.

Petals: Rose, sweet pea, large fruit blossom.

Any wild flower or garden flower may be crystallized. The only thing to remember is that the colouring, shape and formation of some flowers may make them unsuitable.

The flowers can be prepared and stored in closely covered cardboard boxes or in plastic bags and kept in a dark place until wanted.

INGREDIENTS FOR CRYSTALLIZED FLOWERS

Sugar. This may be fine castor or fine granulated sugar. The sugar may be lightly coloured to enhance the appearance of the flowers, but great care should be taken not to use too strong colouring. Mix a few drops of the selected vegetable colouring with the sugar in a bottle and shake hard until evenly mixed. Spread the sugar on a plate or tray until dry. Sieve if necessary.

Gum Arabic Solution

3 teaspoons gum arabic crystals

3 tablespoons rose or orange flower-water

Mix together in a small bottle with a cork or screw-top. Leave until the gum arabic has dissolved and become a sticky liquid. Shake the bottle occasionally.

METHOD OF MAKING CRYSTALLIZED FLOWERS

Use a soft, fine, paint-brush and paint the whole of the flower or petal with the gum arabic solution. Both sides of the petals must be coated and as much of the stem as is required. Unpainted parts will not hold the sugar and become discoloured very quickly. Dredge the painted parts with sugar, making sure that each part of the flower is well coated. Repeat the dusting two or three times, if necessary.

Various devices may be used to make it easier to paint the flowers, for example, pinning the stalks to a shelf or to a cork, thereby making it possible to paint all round without damaging the petals. A pair of fine tweezers are useful for holding flowers

or petals and so is a large pin or a needle. Each flower presents its own problem which must be tackled in its own way.

Place the finished flowers on a tray covered with greaseproof paper or muslin and leave them in a warm place to dry. Then, pack them carefully in covered boxes with paper to prevent the flowers being damaged or fading with exposure to light.

PRESERVING EGGS

The preserving of eggs is sound economy for both the urban and the country housewife. Eggs are always cheaper in the spring during the flush, while there is a very noticeable increase in price during the autumn and winter.

Eggs are preserved by closing and sealing the pores in the shell of the egg with some form of coating. This forms an efficient airtight seal, provided the eggs are good in the first place. Kept in a cool place, the sealed eggs will remain in good condition for 6–12 months.

SELECTION OF EGGS

Hen's eggs for preserving should be:

Fresh, that is between 24 hours and 7 days old. The reason for saying 24 hours is to allow sufficient time for the eggs to cool completely. After 7 days the eggs may begin to deteriorate.

Infertile eggs keep better than fertile ones.

Laid in the spring. This is the time of the year when eggs are at their best. Eggs laid in the heat of summer do not keep as well. Autumn eggs, although quite good for keeping, are laid when the hen is at the end of the season of laying and consequently the physical condition of the hen is not as good as in the spring and the shells may be very thin and brittle.

Clean-shelled. Dirty, misshapen or cracked eggs are unsuitable for preserving. Eggs must *never* be washed before

preserving as harmful organisms may pass through the very porous shells into the interior and cause development of rots and moulds. Home producers of eggs should take care to see that nesting boxes are filled with clean nesting material.

When the eggs are collected or bought, handle them carefully to avoid removing the "bloom" from the shell. Stand the eggs in racks broad-end uppermost, as this helps to keep them in good condition.

METHODS OF PRESERVING EGGS

Waterglass. Make up the waterglass solution according to the maker's instructions. (Waterglass is obtainable from any chemist).

Stir well and allow to cool.

Put the solution into a container, such as an enamelled or galvanized bucket or glazed earthenware crock.

Put the eggs into a wire container which will fit neatly into the bucket; or, put the eggs into the bucket, always stacking them neatly broad-end uppermost.

Make sure that the eggs are completely covered with the solution. Cover the container with some form of lid to prevent evaporation.

If evaporation takes place and the eggs become exposed, top up the bucket with fresh, cold solution.

Store in a cold place, but frost-proof.

To use eggs preserved in Waterglass

Take eggs out of solution; they will feel slimy.

Wash and dry. Use as required for all cooking purposes, except boiling.

For boiling, prick the shells with a strong needle immediately before boiling to prevent bursting.

Sealing. Using proprietary sealing solutions. Dip the eggs in the solution using special wire-holder.

Put on wire cake-tray or tray covered with paper to allow

the solvent to evaporate. This takes a few hours, during which time the eggs should be turned occasionally.

Store in boxes or racks, broad-end uppermost. Keep in a cool place with adequate air circulation. Punch holes in boxes before packing. Sealed eggs will keep well for 6–9 months.

Sealing. Using home-made or proprietary sealing compounds. Satisfactory home-made seals may be:

Pure lard.

Equal mixture lard and boracic acid.

Equal mixture lard and paraffin wax.

Smear the compound evenly all over the shell rolling the egg in the palm of the hand. Be sure no part of the shell is missed.

Store eggs in boxes or racks, broad end uppermost. Store in a cool place and eggs will keep well for 6–9 months.

To use eggs preserved by sealing

Use for all cooking purposes including boiling. After six months do not boil sealed eggs, as they may have developed a musty flavour.

These methods of preserving only apply to hen's eggs. Do not attempt to preserve ducks' eggs, as these often contain bacteria which will continue to develop inside the sealed egg. It is dangerous to attempt to store ducks' eggs which should always be eaten within a few days of laying.

SECTION 9

DRYING OF HERBS, FRUITS AND SOME VEGETABLES

DRYING is one of the most ancient forms of food preservation and like freezing was practised in the countries most suitable to the method. Anyone travelling in southern Europe will be familiar with the sight of trays of tomatoes drying on the roof or veranda. A very pretty sight it is, too, the brightly coloured fruits against the pale coloured walls in the dazzling sunshine.

At home here dazzling sunshine is an unreliable method of drying for preserving and we have to resort to artificial methods.

Drying preserves the food because all micro-organisms require moisture in order to feed, grow and develop. Deprive them of moisture and the micro-organisms remain dormant or die from lack of nourishment.

Most food that has been dried has to be restored to its near natural state before using by adding some or all of the water which has been driven off. This all sounds very simple, and it would appear that drying food would be the most satisfactory, universal method of preserving all foods. That is probably true but, alas, some foods do not respond well to this treatment, and although they may keep well the food is very unpalatable and unappetizing to eat after soaking.

The last war taught us a lot about drying of food. Commercially it is a highly developed and successful method of preserving, but the use of this method for home preserving is fairly limited because of the lack of properly controlled drying ovens, and the restricted choice of food for which this method is suitable.

APPARATUS NEEDED FOR DRYING

Drying-Trays. These may be bought or simply made by making a wooden frame and stretching muslin across the framework. The slatted lids which cover boxes of imported fruits are very good for this purpose with muslin tacked over them. Wire cake-trays make suitable drying-trays, but always cover the wire with muslin. Oven shelves with narrowly spaced wires or bars may also be used, covered with muslin.

Drying Bags. These are usually made of muslin and are often used for the smaller herbs to protect them from dust.

Drying Sticks. These are used for holding apple-rings when trays are not convenient.

Fine String. This is used to hold mushrooms and other vegetables, such as beans. The string is passed through a needle and then the vegetables may be threaded on to the fine string.

PLACES FOR DRYING

Oven. Any oven is suitable providing the temperature can be left really low, about 120 deg.F. Mark $\frac{1}{4}$ gas cooker. Higher

temperatures are required but the drying process is usually started at the very low temperature.

Rack above the oven. This is very suitable particularly in solid fuel stoves. Take special care to protect the food from dust.

Airing Cupboard. This is an ideal drying place providing there is sufficient ventilation to allow the moist air to get away. It has the great advantage of a fairly constant, even heat.

Kitchen. The normal warm kitchen atmosphere is suitable for drying certain foods, and is very useful for finishing off the drying process.

FOODS SUITABLE FOR DRYING

Fruits	Apples
	Dessert Pears
	Grapes
	Large Sweet Plums
Vegetables	Peas (particularly Marrowfats)
	Beans
	Onions. Only those which will not store in other ways, such as bull-necked onions.
	Mushrooms
Herbs	All kinds

It is not suggested that high quality, perfect fruit should be dried as that is better preserved in other ways, for example bottling, canning or dry storage. Insect-marked fruit, or slightly bruised and misshaped apples and pears may be used and the damaged parts should be cut out before slicing or quartering.

Drying. This is best done at a temperature between 120 deg.F.–150 deg.F. Any greater heat than 150 deg.F. will cause the fruit and vegetables to become tough or the skins to burst and even cause scorching.

PREPARATION OF FRUITS, VEGETABLES AND HERBS

Fruits

Apples. Choose firm, ripe fruit. Peel core and cut out damaged portions, all hard pieces, and cut in slices $\frac{1}{4}$ in. thick. Immerse for 5–10 minutes in salt water to keep a good colour, keep well under liquid. Drain well and spread on trays or thread on string or sticks. In all cases, see that the apple rings do not touch. Dry until like Chamois leather. If:

(a) Continuous drying at 120 deg.F.–140 deg. F. drying will be complete in 4–6 hours. Allow to cool 12 hours before packing.

(b) Intermittent drying above a stove, usually 3–4 days.

Salt Solution 1 oz. salt 2 quarts water.

Pears. Choose ripe dessert pears. Peel and cut in half, lengthwise. Put into salt water in the same way as apples, and then dry as for apples.

Plums. Choose ripe, dark-skinned plums. Wash and leave whole or cut in half and remove stone. If cut in half, dry with cutside uppermost to prevent loss of juice. Place on trays, dry slowly at first, at not more than 120 deg.F. When the skins begin to shrivel the temperature may be raised to 150 deg.F. Alternatively, continue at very low temperature until dry. This may be as long as 2 or 3 days. Test for dryness by squeezing between the fingers when no moisture should come out. The fruit should be dry but not brittle. Leave to cool 12 hours before packing.

Grapes. Choose small ripe grapes and dry whole. Dry as for plums. 1 lb. fresh grapes yields $\frac{1}{4}$ lb. dried fruit. They will look like sultanas or raisins and may be used as such.

Vegetables

Peas. (a) Marrowfats are left on the vine until the plant is weakened, or the vine gathered and hung in an airy shed. When dry, shell the peas and put in strong paper envelopes.

(b) Green Sweet Peas. Shell peas. Tie loosely in muslin not too many at a time and scald in boiling water for 5 minutes and then plunge into cold water. Drain well and spread on muslin trays and dry very slowly.

Beans. (a) Haricot beans. Dry as method (a) for peas.

(b) French or runner beans. Prepare as for table and treat as method (b) for peas.

Onions. Bull-necked onions which do not store very well may be peeled and cut into rings and dried on trays or threaded on string.

Mushrooms. Choose very fresh mushrooms. If necessary, peel and remove skin. Thread on string and dry until leathery. They may be spread on a wire-tray but as the shrinkage is very noticeable this in uneconomic of drying space.

Herbs

All herbs except parsley may be dried at kitchen temperature. Gather young plants just before flowering and when fairly dry and not exposed to strong sunshine. Wash in cold water, except mint which should be dipped in boiling water for 1 minute. Put into bags and dry until quite crisp and easily powdered between the fingers. Rub the leaves through a sieve or roll with a rolling-pin. Store in small, airtight jars removing any bits of stem or stalk. Bay leaves are left whole.

Parsley. Dip in boiling water for 1 minute. Shake and spread on trays and dry in a fairly warm oven for an hour. When crisp remove from oven and allow to cool before removing stalks and packing into small airtight jars. Jars should be quite full or much of the flavour will be lost. Store in a dark place to preserve the colour.

STORING OF DRIED FOODS

Pack dried fruit and vegetables in greaseproof bags, in strong cardboard or wooden boxes, or in screw-top bottles. Store in a *very dry*, dark place.

USING DRIED FOODS

Fruit. Soak fruit in water for 24 hours before cooking. Cook slowly in the same water and add the sugar just before the end of the cooking time.

Peas and Beans. Soak in water for 24 hours and cook in the same water. Cook slowly until tender. Allow 1–2 hours according to variety of vegetable.

1 level teaspoon of bicarbonate of soda to 1 lb. vegetables, added to soaking water, helps to make vegetables more tender.

Onion Rings. Cover with boiling water for 2 hours before use.

Mushrooms. Add direct to stews or soup for flavouring.

Herbs. Use as liked in many savoury dishes or as a garnish.

SECTION 10

NOTES FOR THOSE ENTERING EXHIBITS IN SHOWS

VERY many shows and competitions for preserved produce are held each year up and down the country.

They range from the small competitions run in connexion with a regular meeting of women's organizations and the local Flower Show to the big national shows organized by various newspapers and the Dairy Show and Olympia.

Only in these big shows are there any considerable money prizes. Local shows may offer a small money or other prize, but many are purely competitions entered in a spirit of friendly rivalry. In all cases the ultimate object is educational. By putting forward our best efforts and having them judged by experts, and seeing them next to other people's entries, we can see in what respects we might improve our work, and how well we have done compared with our friends.

Where the fruit is from our own gardens, we may find that

the growing and tending of the crops has a considerable effect on the final preserve and we should find encouragement to grow better varieties and cleaner fruit.

A good judge, if she has the time at her disposal before the opening of the show to the public, will put comments on the entry cards to show competitors where and why they have lost marks. In many cases the judge will be present after the opening of the show and will talk to entrants and give them good advice and spur them on to better work.

Naturally, preserves entered for the small local show will be judged less hardly than say a district show, and so on up to the biggest county or national shows.

More can be learnt from a competition that is individually marked according to points than one which is merely judged for first, second and third prizes. A series of mark-cards for the different classes of preserves has been evolved by the National Federation of Women's Institutes and approved by the Long Ashton Research Station experts. This system of marking is almost universally accepted as a standard for preserves, in the same way as the marks published by the Royal Horticultural Society in the show handbook, *is* accepted for fresh fruit and vegetables at most flower shows. A most useful handbook has just been published by the National Federation of Women's Institutes, 39, Eccleston Square, London S.W.1. called the Produce Show Handbook price 1/6d. This booklet, besides giving all the points and headings for judging preserves, also contains invaluable advice for those concerned with the organization of shows, and the drawing up of schedules.

GOOD SHOWMANSHIP

Read the schedule *very carefully*.

Check that what you intend to show is exactly what is asked for in kind, size and type. Nothing is more heartbreaking than

to find your exhibit marked "not according to schedule".

Label carefully and neatly, giving all necessary details including the date.

Clean all jars and cans before setting out for the Show, and handle very carefully thereafter. Methylated spirit is used for the glass parts; and metal polish for metal tops. It is wise to take a tiny bottle of methylated spirit and a soft cloth to the show to rub off any last finger-marks after staging. In case of accidents during transport it is as well to have a spare jam-pot cover or two, together with string and scissors. There is really no excuse for anyone to lose marks for cleanliness of container or for labelling.

Metal screw-rings should be removed from bottles when put on show.

Give yourself plenty of time to stage your entries and be out of the way before judging begins.

Before leaving be *quite, quite* sure that you have put your jars and bottles in the right class and that the right cards are with them.

POINTS TO WATCH IN DIFFERENT CLASSES OF PRESERVES

In every class points are given for the appearance of the container, which includes label and date and cleanliness as already mentioned, and in the case of jams, jellies, marmalades, cheeses and curds and chutney for quantity. The jars must be as full as possible. Where a waxed circle is used it must have been put on carefully so that it has no air bubbles underneath.

Bottled Fruit. Grading for size and ripeness and for freedom from blemishes is important, as is neatness of packing. Fancy packs will not of themselves win prizes, unless in all other respects the fancy packed jar is good. The water or syrup used must be clear, so see that any peeled fruits do not shed fibres during packing. Colour is very important. It should be bright and typical of the fruit used.

Jams and Jellies. Here again colour should be bright and typical. In jams and marmalades, fruit skins or peel, must be well cooked and soft. Jellies must be clear, quite free from cloudiness and "bits." Flavour is, of course, most important, it should be fruity and not just sweet.

Chutney. Again the colour must be good. Red tomato chutney should be *red*, green tomato should be *green* etc. not brown as they sometimes are. Whole spices, steeped in cold vinegar, rather than powdered spices cooked in the chutney will help to keep a clear colour. When onion is used it must be thoroughly cooked and soft, and the chutney should be well blended and jam-like in consistency, with no free vinegar lying on top.

Pickles. For show purposes whole spices (other than one or two chillies) should not be included in the jar. Vinegar should cover the vegetables or fruit at least $\frac{1}{2}$ inch, and should be clear, except for piccalilli. This clarity is the result of careful straining of the vinegar before pouring it into the jar.

Both pickles and chutneys must be covered with a vinegar-proof top, to prevent evaporation of the vinegar. They both need to mature and do not gain their best flavour until they are about two months old, so do not send them to shows when they are newly made.

Fruit Syrups and Sauces. Be sure to have a properly finished seal. Colour and flavour are again most important.

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